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# MRS. A. D. FREEMAN & SONS

## ILLUSTRATED CATALOGUE

—OF—

# HARDY FRUITS,

CONTAINING THE BEST MODES

—OF—

## Propagating, Planting and Culture

—OF—

## Trees, Vines, Plants, Etc.

FROM

POPLAR GROVE NURSERIES,

TADMOR, ( *Montgomery Co.,* ) OHIO.

*Copyrighted by* *H. W. Freeman.*

*Printed by HARRY HORTON, Tipp City, O.*

# Some Recommendations of Merit.

Hoopestown, Illinois, Jan. 5, 1889.

Having had dealings with Mrs A. D. Freeman and Sons for several years past, I can cheerfully certify to the honesty and reliability of their business transactions. I have found their Nursery Stock of excellent quality, *true to name*, and reasonable in price. After dealing with half a dozen or more Nurseries during the past ten years, I am frank to say that if I was fitting up a new place, or planting an orchard, I should surely give my order to Mrs. Freeman & Sons, believing their stock would prove more satisfactory than that of any other Nursery I am acquainted with. They have paid especial attention to growing hardy varieties, and that their trees will endure our winters, and will bear fruit in this climate, I know, because I have tried them and found them all O. K.

W. P. PEIRCE, M. D.

Swayzee, Indiana, June 4, 1886.

We, the undersigned, having purchased fruit trees of the Poplar Grove Nursery thirteen years ago, would say that they are good thrifty trees, the best that we ever bought, and that they are still bearing and doing well. To all persons wishing to purchase trees we can recommend the Nursery firm of A. D. Freeman & Sons as trustworthy in every respect.

Mats Allen,
John Lions.

We copy the following notice from the Hoopestown, Ill., Chronicle, and heartily endorse every word of it. The Freeman Nurseries are among the very best of the many for which Tadmor is so justly famous: "Mrs. A. D. Freeman & Sons, of Tadmor, Ohio, have just completed their seventh consecutive delivery at this place, giving perfect satisfaction upon all these occasions, and being recommended by the best men in Vermillion and Iroquois counties we can unhesitatingly recommend them as reliable nurserymen, who are selling the best grades of trees at prices far below those given by any other firms in this section of the country. In their dealings with us they have been punctual and have shown themselves otherwise worthy of our esteem. H. W. Freeman, the junior member and general agent of the firm, is an obliging and energetic young man, who has, by his upright manner of conducting the business, shown that the nursery has been ably represented here, and that honesty in all things is the best policy.—*Tipp (O.) Herald.*

## INTRODUCTORY.

In the present work is given a brief history of the fruits best adapted to the soil and climate of Central Illinois and Indiana; and especially that part of those states near their boundary lines. Having had five years' experience, personally, with small fruits and trees of all kinds in this territory, and given due observation to the kinds of fruit now existing there, besides watching carefully the result of our efforts, we can conscientiously point out for the planter the kinds and varieties both for pleasure and for profit, giving the condition and kinds of soil to which they are best adapted.

The amateur may find, herein, much valuable information as to the best mode of preparing the soil, planting, pruning and cultivating his trees, vines and plants. It has been our aim to make this part as plain—"so plain, in fact, that the wayfaring man, though a fool, need not err therein."

An important feature is the space devoted to insects; their habits, and the best manner of destroying them. Those that molest apple, pear, plum, peach and currant are each taken in its turn. The planter will find, as each remedy is tried, that "truth is stranger than fiction," or in other words, the remedy destroys the insect pests; for just so sure as it is used according to the directions given, just that *sure* are you certain of success.

A brief description is given of the way our trees are produced, giving the seedlings used for budding each kind of fruit. Piece-root-grafting has not been done at our nursery within the past two years, owing to our considering the budded and crown-grafted trees the hardier; yet this way of propagation is not neglected.

Forest and Deciduous trees are each given a few pages. Evergreens, flowers and shrubs are all touched upon. A short treatise on Window Gardening is appended, which may be useful, especially to the ladies; our better-half should not be overlooked in these matters.

It is strange that so few realize the importance of planting Fruits and Plants; that it is something they cannot afford to delay a single season.

The purchase of a piano, carriage, or any article of furniture, can easily be postponed, as that may be procured complete at any time; but trees require several years to come into full bearing, and every season's delay is an actual loss.

Choice fruits will do more to enhance the value and profits of the farm, add to the health, comfort and happiness of the family, beauty and selling value of a country home, than anything else that can be procured for the same outlay. "If farmers would eat less meats and more fruits, they would not have so many doctor's bills to pay," said an eminent physician.

Whatever he has done, or neglected to do, in the past, the farmer who has land that can properly be devoted to that purpose should make it a point this year to plant a few trees. Are yourself and family reveling in an abundace of small fruits? If not, you are not getting the comforts out of a farmer's life that God designed you should, nor are you dealing justly with those committed to your charge. There is not only comfort in having plenty of fruit, but there is health as well. The yearning of the system on these hot days for those juicy, refreshing fruits is but the voice of nature asking for a supply of the acids contained in them to enable her to overcome the evil effects of last winter's cold; and no one can afford to disregard it. If you have not plenty of all kinds of fruits in its season, you should neglect the matter no longer, but set apart a generous plat of ground and begin to prepare it for next season's planting.

**The Poplar Grove Nursery** has been represented at Tadmor, Ohio, ever since the spring of Eighteen Hundred and Sixty-four. The first eighteen years were under the management of our esteemed father, George Freeman, who was well-known in Horticulture for his fair, straight forward dealing with his fellow-man. His motto, "Honesty the best policy," has been our motto, as we trust it shall always be. His footsteps we have carefully followed, and deviated only when and where the broad and sweeping wave of progress press on its way.

**Our Nursery** is situated on the fortieth parallel of north lattitude, seven degrees west of Washington. The country is rolling, soil clayey and sandy, in places a black, sandy loam. The climate is very changeable, the thermometer showing from temperate to one hundred and twenty degrees in summer, and from freezing to thirty degrees below zero in winter. The atmosphere is not so moist as that north and north-west in Michigan and Wisconsin, where, though the temperature is more severe in winter, the climate is not so changeable owing to the height of land and the *near vicinity of the Great Lakes*. Where they have frequent crops of peaches from this cause, we have a crop possibly in six or eight years. While they can boast of a colder climate, their trees are more susceptible to the sudden changes of weather than are ours, which have always been used to it; as it is a well-known fact to all nurserymen and fruit growers that it is not the cold alone that causes the loss of so many trees, but this warm and cold, rain and snow, summer and winter combined that does the mischief.

As an illustration of this take the winter of 1882–3, which occasioned more loss than that of any other in the past thirty or forty years. How did the loss occur then? We answer: the trees grew late and the *sap* was not fully down even after a slight cold spell; this condition of the trees was augmented by the ground being in a fit condition to plow for a week or more in mid-winter, which caused the sap to flow upward, especially in all trees where the pores are large and far apart, such as the peach, apricot and some varieties of the apple; in the midst of this, and while the sap is flowing, we have a heavy snow, the weather turns extremely cold, the snow keeps the ground warm, and as the sap reaches the snow line it is arrested by the cold and becoming clogged at that point, decay starts; with the return of spring your trees turn black at heart and between the wood and outer bark, caused by the upward sap carrying the clotted or stagnated sap with it between the wood and outer bark; on its return through the centre it also deposits this poisonous substance, which turns the heart black in the same manner as a drop or so of ink will color a glass of water.

To those desiring to purchase trees, plants, vines or flowers we ask: kindly submit your wants to us, and we feel confident your first order will not be the only one. Our prices are the lowest—our trees the best.

We guarantee the varieties genuine. The manner of handling stock with us is our superiority over many.

☞SATISFACTION IS OUR SPECIALTY.☜

Our agents are each given a certificate showing they are entitled to represent us. None but those fully competent and posted in the business are employed.

With best wishes and thanks to those who have patronized us in the past, we solicit their future orders. To those who have never dealt with us, or have just placed an order, we refer you to the people who have dealt with us for years and their commendations as to our reliability.

Wishing you, one and all, success, we are

RESPECTFULLY YOURS,

MRS. A. D. FREEMAN & SONS.

## BUYING TREES IN AUTUMN.

As a rule we do not advise fall planting of trees in the northern states. In many instances of our own and other's experionce it has been attended with fair successs, but as a rule it has been found a dangerous and unnecessary exposure of the tree through the hard northern winter. The root has not become sufficiently established to sustain the drain imposed upon it by the dry piercing winds of the hard winter beating upon the body and top. Many of our heaviest customers, (we do not mean avordupois,) purchase their trees in autumn and have them sent late in the season, just before the ground is frozen. There are several good reasons for this practice; in the first place, winter is intended by nature as a period of dormancy in these northern latitudes, and we have all noticed, the more uniform this period, the more favorable is it to tree life. When the trees are left in the ground the winter is often broken by warm spells and thaws, which start the sap only to be frozen in a few days perhaps, and the top of the tree is constantly exposed to the winds so common to the latitude of the fortieth and forty-first parallel.

To be sure, all this must occur every winter of its after life, but it need not, and should not, undergo it the winter preceding its establishment in its new location. When trees are transplanted to new locations it should be under the best possible conditions. The buried tree comes forth in the spring fresh and vigorous, showing none of the depletion which is likely to occur had it been planted in its new quarters the fall preceding. It now has all summer before it in which to get well established before the next winter.

Again, there is no time like autumn to get an order well and fully filled at the nursery. The stock, if ever, is full and undepleted; the purchaser is not buying from a culled stock; the *prices* are usually more favorable than in the spring, and, best of all, you have your stock on hand the very day they are wanted. This is important as the trees should be started at the earliest possible moment, that they may become well rooted before the hot, dry summer sets in. Those who order in the spring must take their chances of getting them at the precise time wanted. Frequently the roads are so bad at this season as to make them next to impossible, though this occurs only where they have no gravel roads.

*Heading or Heeling in young trees over winter.*—These are generally procured in bales or bunches which should be opened and placed in a trench previously prepared as follows: Dig so the tops of the trees may lay to the south; on a light raise is the best. Let the trench be dug so the trees willeslant about forty degrees, the place for roots being from eighteen to twenty-four inches deep; length of trench being according to the number of trees to be heeled in. Spread the trees out carefully, leaving about an inch space between them to be filled in with moist earth; over the trees thus treated place green brush to protect them from the spade when unearthed in spring; fasten all labels face to tree to preserve name; fill in with earth, (have it the depth of from eighteen to six inces from roots to top—the roots being the deeper,) and you are done.

Should trees be procured in spring and the ground not ready, or too wet, to plant, have a trench dug similar to the above, so that the trees will slant, the tops being several feet above surface of ground, and see that the roots are well covered; if the ground is frozen don't open the bunch but moisten and place in a dark cellar; if trees are received in a frozen or shriveled condition, bury roots and tops entire under the ground and leave for a few days, or until a moist, cloudy day appears suitable for opening. In case the ground is frozen, place in a dark cellar and leave until thawed out; if they are dried moisten with plenty of water and leave until the ground is fit to receive them.

*Preparing the places.*—This is a fatal stumbling block to the novice, as too many look upon trees in the light of fence-posts, judging from the size of the holes generally dug. We have known of a man in Iroquois who set out a bill of trees, $26.00 worth, in one hour's time; needless for us to mention, those living at the close of summer were few; the holes were simply scooped out and trees set in them, each given a couple shovels full of earth, two pressures of the foot, (sometimes not that,) and it is over. Others, and their names are legion, dig holes twelve to eighteen inches by from six to ten square, and, just at this moment remembering something they want done as soon as this is over, seize the tree and jam it into the hole, see that it sets straight and solid so they can shovel in faster, fill two-thirds full of earth, pour in *one pint* of water—even neglecting this when that trip to town comes in mind; shovel in balance, step on each side of tree, give a sigh of relief, think one less to plant yet, halloo to small boy for another pint of water, &c.; well, he is done at last. If the season is *wet* the trees may mostly grow, though very slowly as the roots do not do well in an inverted position.

Is it a wonder that trees die, or rather is it not a wonder that so many of them live? In truth in this country, where the climate and soil are so favorable, where pruning and training are comparatively so little necessary, the great requisite to success in the ordinary culture of fruit trees is the *proper preparation of the soil* before a tree is planted. Whether a tree transplanted shall struggle several years for existence, or grow moderately after a short time, or at once start into a very luxuriant and vigorous

growth depends entirely upon the amount of labor the planter is willing to bestow upon the soil for his trees. We have seen several instances where, side by side, one man planted his trees in large spaces of deeply moved and rich soil, and the other in small holes in the common mode. Result: trees of former larger after five years than the latter after ten.

No tree should be planted in a hole of less size than two feet square and eighteen inches deep; to this size and depth the soil should be removed and well pulverized; enriching the soil should be very carefully done--little, if any is needed in this territory; where necessary some well rotted manure mixed with the soil thoroughly, not over a spade-full to the tree, will best answer. No after mending of the soil or top dresssings applied to the surface can, in a climate of dry summer like ours, equal the effects of this early and deep loosening and enrichening the soil.

The whole art of transplanting after this consists in placing the roots as they were, or in the most favorable position for growth, when the hole has been filled with soil prepared or pulverized, with a small hillock and not hollow, for the roots to rest upon, of sufficient height to admit of the tree standing exactly as deep as in the nursery. *Cut off all bruised and broken roots, head back* the top to correspond with the loss of roots, fill in with earth, seeing that the tree is held upright or leaning, if at all, to the south and east; be careful to have the dirt packed closely with the hand around the little fibrous roots; when about three-fourths full pour in a gallon of water—unless the soil is wet; this will wash the earth around the roots and keep the soil moist; put in the soil so that it shall be near a level when it settles, and avoid the practice of shaking the tree.

*Mulching* the trees when transplanted is a good idea as it keeps the soil moist through the hot summer days, with scarcely any water needed. Chips, corn cobs, or wet straw make a good mulch, as either keeps the moisture from evaporating, or the hot sun from baking or parching the ground.

Never water the tree and leave it exposed to the sun, as the benefit is more than counteracted by the loss, as it causes the ground to become parched and hard.

## THE APPLE.

With the exception of a few very choice sorts in the fruit garden, the orchard is the place for this tree: and, indeed, when we consider the great value and usefulness of apples to the farmer it is easy to see that no farm is complete without a large and well selected apple orchard. Where danger exists of the sun scorching trees, twenty-five feet is the better distance; in windy localities they are planted from twenty-five to thirty feet, according to location; this should be in the southern and middle portions a south-eastern slope; but in the north where danger exists of early frosts a northern slope is preferable.

*Strong loams,* by which we mean a loam with only just a sufficient portion of sand to make it easily worked, are, on the whole, the best fuit gardens in this country. A strong loam is usually a deep soil, and affords, during the whole heat of summer, a proper supply of moisture and nourishment to the roots of trees. In the event of its being a very dry season mulching with coarse straw, or rocks laid around the tree, becomes necessary. Fruit trees do not come into bearing so soon in a strong as in a sandy loam, because the growth of wood is more vigorous and fruit buds are not so soon formed, but they bear larger crops, are longer lived and much less liable to disease. Before transplanting the ground should be well prepared for the trees by plowing deeply and subsoiling where the soil is very sandy; poor soils require manure and turning under green crops such as clover, peas, &c., which serve to lighten and make porus, open and enrich the soil. Where ground is inclined to be wet, or the subsoil a heavy clay, it is best to thoroughly underdrain the whole by means of tile drains between every, or every other, row as there is necessity therefor; keep the surface drains always open, that no water is kept standing around roots of trees.

Vigorous, healthy young trees should be selected from the nursery, as there is a great difference in the natural growth, size and shape of the various sorts of apple trees. Plant those of the same kind together; also, as nearly as can be, the early, fall and winter by themselves; you will thus greatly facilitate the culture and gathering of the fruit, besides adding to the appearance and beauty of the orchard.

*It is an indispensable requisite in all young orchards that the ground be kept mellow and loose by cultivation*—at least for the first few years until the trees are well established. Fallow crops are the best for orchards; potatoes, beets, carrots—or *corn* when not planted too close to the trees is desirable, especially the first year as it greatly softens the heat of the sun. Grain, such as oats, wheat or rye are very injurious to young trees, oats being more poisonous than any of the others; I have seen young trees almost all killed by injudicious sowing of oats amongst them. Never plant any crop closer to the trees than where the limbs extend, as the roots require the sole occupancy of the ground for that distance.

With the least symptom of failure or decay in a bearing orchard the ground should have a good top dressing of manure, and of moil or mild lime in alternate years. We frequently see orchards with moss covered limbs, formerly very productive, but now nearly barren and going into premature decay for the lack of proper care and suitable fertilizers, which need only require a plentiful supply of food in top dressings, thorough scraping of the stems and limbs and washing with diluted soft soap to bring them again into the finest state of vigor and productiveness.

THE BEARING YEAR of the apple, in common culture, only takes place every other year, owing to exhaustion from bearing, which requires a season of rest. The fruit, if thinned out and the ground kept in high condition, may be had every year like any other fruit trees. The *bearing year* of an apple tree, or whole orchard, may be changed; when the trees *first* produce good crops pick off the fruit; this enables one to have apples every year.

## PRUNING.

THE APPLE in orchards requires very little pruning if the trees, while the orchard is young, are carefully inspected every year in March and all crossing branches taken out while they are small. When the heads are once properly adjusted and well balanced the less the pruning saw and knife are used the better, and the cutting out of *dead limbs* and the removal of such as may interfere with others, or too greatly crowd up the head of the tree, is all that an orchard will usually require. Whenever a limb is pruned away the wound should be neatly smoothed, and if it is an inch or more in diameter, be covered with the liquid shellac mentioned in the latter part of this work.

The best time for pruning, *theoretically*, is late in the autumn, but, *practically*, according to our experience, the best time for pruning to promote growth and rapid healing of parts pruned is in *very early* spring, or as soon as the severity of winter is over; in the lattitude north of fortieth parallel from middle to last of February is the proper time, not only for apples but pears, peaches, grapes, &c. *Avoid pruning* in spring if buds are swelling and sap in full flow, as the loss by bleeding is injurious to most fruits, and in some causes serious canker of the limbs.

## VARIETIES TO PLANT.

THERE is the place where the planter is always in hot water; desiring to have those trees, which do best in his soil and climate, he is frequently at a loss over which he is sometimes helped by the gentlemanly tree agent, who, if he is an adept, will select those fruits that are the best just in proportion to his honesty, or as he thinks his finances will be the most benefitted. From this cause of setting improper or tender sorts we frequently hear that setting trees is a failure, whereas, it is only through a wrong start. We can assure you that if the varieties selected here are taken, those who have heretofore been losers will be then the gainers.

We give *two lists* of *twelve* varieties each; the first list are composed of kinds best suited to this locality, (see introductory;) the second, of those that are only partially hardy, or have not been sufficiently tested in your soil and climate.

FIRST LIST, in order of bearing season: Yellow Transparent, Tetofsky, Duchess of Oldenburg, Scott's Winter, Pewaukee, Fameuse, Haas, Wealthy, Wolf River, Mann, Golden Russet and Walbridge.

SECOND LIST: Red Astrachan, Western Beauty, Maiden Blush, Flory, Northern Spy, Bailey's Sweet, Falman's Sweet, White Pippin, Grimes Golden, Jeniton, Willow Twig and Minkler.

**Yellow Transparent.**—New and *very hardy*. Fruit above medium size, smooth and fair; abundant and early bearing, extra good quality, pleasant flavor and thought to be the earliest reliable apple grown, ripening before the Early Harvest which it resembles to a certain extent. Russian.

**Tetofsky.**—A Russian summer apple sometimes called "Russian Crab," a name doubtless given it on account of its great hardiness and early bearing qualities. It withstands the most rigorous climate, and produces annual crops of handsome fruit, frequently bearing in the nursesy rows. The flesh is white and juicy, sprightly, sub-acid, fragrant and agreeable; ripens in August; skin slightly streaked with red, tree growing similar to pear trees or in a pyramidal form.

**Duchess of Oldenburg.**—Medium to large size, roundish, skin yellow streaked with red, somewhat blushed; resembles the Autumn Strawberry, but is larger. A very beautiful, salable apple and a valuable market variety. The tree bears young and is extremely hardy and vigorous; as a nursery tree it is a scraggy grower, season September. This apple needs no comment—the west is well acquainted with it and the tree has always proven hardy; fruit is fair quality; needs but to be seen to be liked. No orchard should be without a few of these trees. Russian Origin.

**Pewaukee.**—A seedling from the Duchess of Oldenburg. Fruit medium to large, sound obvate, waved, surface bright yellow, partially covered

with dark red, striped and splashed, covered with a gray bloom—and overspread with whitish dots; cavity small, basin shallow and slightly fluted, calyx rather large, stem variable in length, with a fleshy substance on one side, from one-half to an inch long; core small, flesh yellowish white, breaking juicy; flavor sub-acid, rich aromatic, spicy, quality good to best. Tree strong grower though not rank like Haas; very hardy. December to May.

**Fameuse.**(*Smon*)—Medium, striped and bloched with red; flesh remarkably white, very tender, juicy, and with a slight perfume. Tree moderately vigorous, hardy. October to November. We have frequently seen this apple fruiting in the west; it is a favorite with many and seldom hurt by the severity or change of climate.

**Haas.**—Medium to large, slightly conical, pale greenish yellow, shaded and striped with red; flesh fine, white, sometimes stained, juicy sub-acid, tender and good. Tree vigorous and hardy; upright, well formed head; bears early and abundantly. Orgin near St. Louis. Popular in the west and north-west. September to November.

**Wealthy.**—Originated near St. Paul, Minnesota, by Peter M. Gideon. Fruit full medium, roundish, skin smooth, oily, mostly covered with dark red; flesh white, fine, juicy, vinous, sub-acid, very good. Tree very hardy, having no equal, possibly, in American sorts except Walbridge and that is a question; a *free* grower, early bearer and productive; an acquisition of much value on account of its great hardiness and good quality. December and February.

This apple merits extensive cultivation not only in the west and north-west but over the east, north and south as well. It needs only to be seen to be admired; but to be tasted to be praised. Its recommendations are legion; as to hardiness and good quality we can unhesitatingly pronounce it the best apple for cold climates ever introduced. The only improvement to be made is to extend its keeping qualities two months longer, which has been done by means of cold storage.

**Wolf River.**—This apple originated in Waupaca County, Wisconsin. It is almost identical with the Russian Alexander, and has been thought to be that variety, but the origin of the Wolf River as a seedling has been established by the discoverer. Fruit keeps later than Alexander, trees have a different look and pro ve hardier. Large to very large, flat conical, smooth, mixed with bright red on whitish yellow ground; flesh tender, coarse, gets dry when ripe; flavor sub-acid; quality medium only. Season, November to February.

**Scott's Winter.**—Brought to notice by Dr. T. H. Hoskins, of Vermont; originated near Newport, that state; esteemed there for its hardiness and brilliantly colored fruit; is liked for cooking but rather tart for dessert purposes. Medium. Shape flat, conical and irregular, surface smooth light yellow almost hidden by red blotches and stripes, core small, flesh white with tinge of pink sometimes; tender, fine grained, juicy, flavor sub-

acid, quite tart but pleasant, quality fair. Season, December to April.

We copy the following from Green's Fruit Grower: "Scott's Winter is an apple which is coming to the front strongly as an iron clad keeper of merit." Our local paper, the Newport Express, says: "Last Tuesday Cashman Gilbert brought in the proof that we can have good fruit all the year round in this country. He had some fine Yellow Transparent apples just ripe, and also Scott's Winter of last season's growth, which were still sound and of good flavor."

Prof. Budd, of Iowa, speakes highly of it at Montreal in 1888. Mr. Shepherd says his trees are ten years old and have proven satisfactory; trees hardy, quality good; acid but tones down by middle of January and gets to be of very good quality. Mr. Gibb endorses what has been said as to quality of apple and keeping qualities, comparing it with the Wealthy in hardiness, and as productive.

**Walbridge.**—Medium size, striped with red, handsome and of excellent quality; flavor mild, pleasant, juicy; sub-acid; somewhat similar in appearance to Milam, though a hardier tree. Vigorous grower and productive, very hardy, and esteemed of great value for the north and north-west. February till June.

A. G. Tuttle, of Baraboo, Wisconsin, who is competent to judge, speaking of it in Popular Gardening, says: "It is having a stir in its favor, as it has borne good crops and has come through the severe winter better than any of the American sorts."

The above recommendation may be a just one, though we hardly care to place it superior to either Wealthy or Scott's Winter in hardiness; in keeping qualities it surpasses Wealthy, and as to its value for market or *quality* it is the superior of Scott's Winter.

**Golden Russet.**—Fall Russet—Sheep Nose. This is an apple known to many as we have received many inquiries for it. Hardy, but a slow and scraggy grower while young, which accounts for its scarcity. This is one of the most delicious and tender apples, its flesh resembling more in texture a buttery pear than that of an ordinary apple. Fruit below medium size, roundish, obvate, dull yellow sprinkled with very thin russet; flesh yellowish, very tender, juicy, rich, spicy flavor. Best October to Jan'y.

**Mann.**—Medium to large, conical, greenish yellow; flesh crisp, tender, mild; tree a strong upright grower, productive, keeps till July; resembles and takes the place of R. I. Greening to a certain extent; a milder flavored apple than is the Greening.

**Red Astrachan.**—Originated in Sweden, a handsome dessert fruit, rich color, quality good. If not taken from tree soon as ripe is liable to become mealy. Fruit above medium, smooth, fair, roundish, skin almost entirely covered with deep crimson, flesh white, juicy, rich acid flavor. Ripens from last of July to middle of August.

**Western Beauty.**—(Summer Rambo.) Large to very large, skin pale yellow covered with red, flesh light yellow, tender, juicy, flavor first rate, productive, tree a strong grower. August.

**Maiden Blush.**—This apple is known to the people of every state in the Union; noted for its cooking qualities and keeping from August until October without any care except to leave hang on the tree. Large, beautiful, pale waxen yellow, blushed with brilliant crimson; acid, aromatic, an early and regular bearer, tree vigorous, moderately hardy; very popular as a market apple.

**Flory.**—(Flory's Bellflower.)—Medium to large, rich yellow, tender, sub-acid, tree a remarkably strong and fine grower, hardy and an abundant bearer. November to December.

**Northern Spy.**—Large, roundish, slightly conical, somewhat ribbed, striped, with the sunny side nearly covered with purplish red; flesh white and tender with a mild, rich and sub-acid flavor; delicious. This, in the south, is a fall apple; north of the fortieth parallel it is *winter* and keeps late; from December to May is its best season. The tree is a strong, upright grower and forms very compact, dense foliage which should be kept open by pruning so as to admit the air and light freely, otherwise the fruit falls from the tree or decays fast.

**Bailey's Sweet.**—Large, yellowish, mostly covered with red, tender with a honeyed sweet flavor; tree vigorous, hardy and productive; fruit somewhat elongated. November to March.

**Talman's Sweet.**—Above medium, whitish yellow with soft blush on one side, rather firm, fine grained, rich sweet flavor; tree upright, spreading grower, hardy and productive. November to April.

**White Pippin.**—Large, greeenish white, pale yellow at maturity; tender, juicy, rich and crisp; tree hardy, thrifty, upright; a regular good bearer. January to May.

**Grimes Golden.**—Medium, yellow, flavor sub-acid, aromatic and rich. Tree a handsome grower, bears early and regular; hardy. Season, December to March.

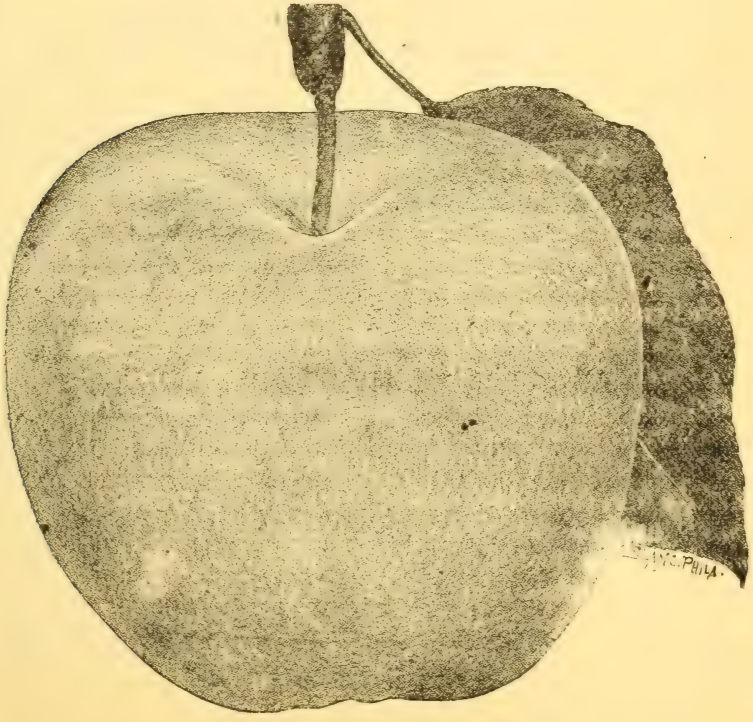
**Willow Twig.**—Origin unknown. A poor grower in the nursery, hence scarce; makes a good spreading, somewhat drooping orchard tree, hardy and productive generally; its quality is medium but it keeps well and is an apple which is considered profitable in the west. Fruit medium, roundish, somewhat oblate, light yellow, shaded and marbled with dull red and sprinkled with numerous russet dots; flesh yellowish green, not very tender, pleasant and sub-acid. Valuable for late keeping. January to June.

**Jeniton.**—(Raule's Janet or Neverfail.)—Medium, mixed and striped crimson on yellow and green; flavor sub-acid, vinous and refreshing; popular as a market fruit on account of its regular and abundant yield. The blossoms appear later than any other sorts and thus generally escape the spring frosts. February to May.

**Minkler.**—This is an apple not so well known as many others but where once fruited the demand is increased. The tree has not been widely disseminated on account of its crooked and slow growth in nurseries, but as a budded tree it promises to be on an equality with the average as to

growth, and of fair form. We have trees, now thirteen years old, that have borne every year for eight years, of course some years more than others, but we have never had a failure; this season, off of eleven trees, we *picked* 100 bushels of nice fine fruit which are of the best quality. We can say for it that, combining the bearing and keeping points of the Ben Davis with the small core and good qualities of the Baldwin, it promises, should it prove as hardy as now believed, to become the most valuable and profitable, both for pleasure or profit, of any apple ever grown. Fruit medium to large, greenish yellow covered with red with a sprinkling of grayish dots over it; smooth and glossy, flesh yellow, tender, juicy, sub-acid, rich. January to May.

## YELLOW TRANSPARENT APPLE.



☞The FAMEUSE Apple is commonly known as the SNOW Apple.☜

## The Yellow Transparent.

This early Russian variety has excited much attention among horticulturists of late years, and is one of the most valuable of any fruit yet introduced. Its merits were discussed by the American Pomological Society, and, from the different published reports, we learn that it is regarded as hardy as the Oldenburg and Pewaukee. Prof. Budd, of Iowa, had fruited it for some years and found it about as hardy as the Duchess of Oldenburg. Mr. Chase, of Pennsylvania, had received reports of it from different parts of that state, and all find it earlier than the Early Harvest.

The Prairie Farmer quotes a statement that is from a correspondent in western New York, where it had proven so hardy that even a terminal bud had never been winter killed on one year old trees. Chas. Downing pronounced this a new and valuable Russian variety. From Green's Fruit Grower, Rochester, N. Y. Dr. Hoskins says that "the tree is productive, the fruit, in size, full medium, often large, hardly inferior to the Early Harvest; always as smooth and fair as turned ivory." At the Michigan Horticultural Society, held in December 1886, several members spoke of this apple as a most valuable early sort, of extra good quality, pleasant flavor and beautiful waxen yellow color.

Mr. Simon Roy, of Berlin, Ont., wrote under date of 13th of June, 1887: that he fruited it in 1886 for the first time, was much pleased with it, and wished he had planted a dozen instead of two.

Mr. Chas. Gibb, of Abbotsford, P. Q., says of it: that owing to the hardiness of the tree, its early and abundant bearing, the even size of the fruit, its fair quality and extreme earliness he expects it will be largely planted in that Province. Mr. John Craig, also a resident of the Province of Quebec, also says of it: "This apple *needs* no commendation; it is a favorite wherever tried."

The Farm, Stock and Home, in speaking of it, says: "If the efforts to introduce Russian apples into the North-west had resulted in but this acquisition, it would amply repay all trouble and expense. Undoubtedly it would pay to plant it quite extensively near Minneapolis and St. Paul for the city markets." From Horticultural Art Journal, Dec. 1888.

We can say to the people we have fruited this apple on three year old trees and it proves to be a desirable apple of good quality for one so early in season. This apple is sold generally from 40 cents to $1.00, but we are selling it at same price as others, and have quite a nice stock two year old from bud.

Respectfully Yours,

MRS. A. D. FREEMAN & SONS.

## HARDY AND IMPROVED SIBERIAN APPLES.

THE varieties of Siberian Crab Apples, (*Pyrus Baccata,*) have heretofore been mainly valuable for their handsome flowers and the beautiful appearance of the tree when loaded with fruit. Within the last few years, however, considerable attention has been given to their cultivation by fruit growers in our western and north-western States, because of the superior hardiness of the trees. Large numbers of seedlings have been grown, some bearing full evidence of the paternity of the *Pyrus Baccata*, others possessing more or less of the *Pyrus Malus*, apparent more in the face and improved quality of the fruit than in the habit of the trees. They are all valuable for cider, preserves and cooking, and some of the improved varieties, more truly, perhaps, Siberian Apples, are quite pleasant and rich for dessert. The great hardihood of the trees, and their productiveness, make them highly valuable for sections where the better varieties of the *Pyrus Malus* do not succeed. In the description of these varieties the terms "medium, large or small," must be considered as applied in comparison with the Siberian Crab.—From Downing's Fruit and Fruit Trees of America.

They are the most profitable apples that can be grown for market, coming into bearing very early—frequently in two years from bud—bearing every year, and the fruit meeting with ready sale at fancy prices. Some of the varieties are not only good for culinary purposes, but are especially desirable for table use on account of their beautiful appearance, their delicate texture, and their delicious flavor.

They combine two qualities which have never before been met with together, viz: Extreme hardiness (being able to resist severe cold as well as the forest trees,) and fruit of such superior quality, that even in the markets of large cities, where fruits of all kinds are in abundance, they sell at high prices, with a brisk demand.

The cost of an orchard of sufficient size to supply the wants of a family, is often exceeded by the amount spent annually to obtain a supply of fruit for home consumption. The early age at which they bear good crops enables them to repay their whole cost before the standard varieties of apples come into bearing.

There are several points to which we wish to call particular attention, and on which we base our recommendation of these hardy fruits for general cultivation:

1st. They can be planted on any kind of soil, and in the most exposed situations with perfect safety.

2d. They will stand the severity of the changes of the coldest weather.

3d. They come into bearing very early, often in the second year from planting, and bear every year.

4th. They are very productive, bearing large crops of beautiful fruit.

5th. They are unequaled for cider or vinegar.

6th. Some of them are pre-eminently dessert fruits, being of superior quality and strikingly handsome.

7th. They can be dried, cooked, canned or preserved with the skin on, saving a great amount of trouble.

8th. The size of the fruit varies from one and one-half to two and one-half inches in diameter, being large enough to quarter and core for drying and other purposes.

9th. They have in their list the best cider apples known, commanding higher prices than any other, as it is frequently used as champagne.

The following are the best varieties :

### SHORT HISTORY OF WHITNEY'S SEEDLING CRAB, NO. 20.

The following interesting piece of history concerning one of our best fruits is from the pen of A. R. Whitney, the originator of the fruit :

"In the fall of 1849 I washed out the seed from a lot of pomace from the common Siberian Crab apple. These I planted in the spring of 1850. The following winter I grafted 500 Willow Twigs on these Siberian seedlings. In September, 1854, one of the seedling roots, in nursery plat No. 20, on which the graft had perished, as did many others that season, was found bearing. This one tree was left standing and the others cleared away.

"In the fall of 1859 or 1860, samples of the fruit were shown in the Prairie Farmer office and public attention called to No. 20, which name had been given it from the plat on which it grew. In 1864 I grafted from this tree on to Paradise stocks in order to secure early bearing. Some 200 of these stocks were thus used. I waited five years for these to fruit before beginning the sale of No. 20.

"After the hard winter of 1873–4, finding they had come through unscathed, not a single tree out of 24,000 having been winter killed, I began their propagation on an extensive scale. So far the No. 20 has been free from blight (so common with other sorts;) the habit of the tree is upright. The tree is entirely healthy and has been received with favor wherever introduced. It is hardy everywhere in the North-west where it has been widely disseminated. It is in bearing in Sweden, Denmark, Germany, Switzerland and Canada, and every State and Territory in the Union, and nowhere has it been reported winter killed. It makes one of the best lawn or street trees set. With us it fills the place of Mt. Ash and all oth- deciduous trees, as it is both useful and ornamental.

"The original tree of No. 20 has borne fruit every year since the year 1854—nearly every time a full crop, and in 1886 gave 25 bushels. It was literally loaded with large, smooth fruit. The tree is a handsome grower, upright and symmetrical. The foliage is large and deeply colored. One can tell a No. 20 tree among a thousand varieties, as it grows with remarkable uniformity everywhere.

"For a crab the fruit is large, handsome and the equal in flavor of most of the best apples. It is far richer than many of them, and is of superior quality for the table and for preserving. There seems to be no variety of

the crab so well adapted to meet the desires of those planting for both ornament and usefulness. In the farm house yard, the village lot, or along the roadside it is admirable.

"The Whitney No. 20, besides possessing all these most desirable qualities, is the best known Cider Apple now grown.

"The No. 20 is a fine dessert apple, averaging one and one-half to two inches in diameter, varying from round to conical in shape. Skin smooth, glossy, green, striped and splashed with carmine; flesh firm, juicy, rich, resembling and equaling in flavor the rambo—a great and abundant bearer. Trees perfectly hardy; never have lost a tree by winter killing or blight; no better fruit for the market in its season. Season, August and Sept."

**Martha.**—This is one of the most valuable variety of Siberian apples grown. Tree remarkably vigorous, growing to good size, and immensely productive. Comes in to bearing second year from planting, bearing every year thereafter and produces good crops by the fourth year. Fruit very large, from one and one half to two inches in diameter, being large enough to quarter and core for preserving and drying; excellent for sauce and pies, both green and dried, good for cider, being juicy and crisp, and is also, by many, considered a good eating apple. Skin yellow, striped with red. Originated by Peter M. Gideon, Minnesota. September to November.

**Transcendant.**—Similar to the above, not quite so large; golden yellow with a rich crimson cheek in sun, covered with a delicate white bloom; when nearly ripe the red covers the whole surface; when mellow is pleasant and agreeable. Early autumn.

**Marengo.**—Season, January to June. The Marengo is the longest keeper and has been kept in good condition for three several years until May, and once until June 27th. Large for Siberians, quite acid enough for cooking, *and is juicy to the last;* color deep red with a rich bloom, trees are stocky and straight growers. The eating quality of Marengo is described by Downing as "a mild sub-acid, pleasant," and Elliott says it is "rich and quite good."

**Hyslop.**—Large, oblate, deep crimson covered with bloom, showy, excellent for culinary purposes and for cider; the best of the *late keepers.* Season, November to February.

**Van Wyck Sweet.**—A new and exceedingly valuable variety. Originated on the Van Wyck farm, near Fishkill, N. Y. Fruit large, skin yellowish white covered with light red. Flesh yellowish white, *sweet* and tender. Core small. October. Tree not as strong a grower as some and harder to transplant, but where once started is perfectly hardy.

**Whitney No. 20.**—Originated with A. R. Whitney, of Franklin Grove, Illinois. *A very pleasant eating apple* and splendid for canning and making into "cider wine." Mr. Whitney has twenty acres of them in bearing, and, in conversation with F. E. Freeman, at St. Louis, 1883, said he had made as high as five thousand dollars a year off of his orchard.

**Goodwine's Cider.**—New and valuable. Originated in Vermillion Co., Illinois, on farm of John C. Goodwine. Size medium to large, greenish with dull red stripes; flavor acid; productive. Original tree still living and forty years old; seldom fails to bear a fine crop. Its name indicates its main value. Seems to fill the place of Hewe's Virginia, and is destined to become a valuable acquisition to cold climates. We will not be able to furnish trees of this apple before the Fall of '91, except in limited quantities. *Mr. Goodwine* has already placed his order for one hundred of the trees. It *cannot* be procured except of us or our agents.

## CULTURE OF THE PLUM.

In the nursery we select the most fertile soil for plums. If we neglected the plum the trees would grow so slowly as to be crooked and unmarketable; but with rich soil and good culture the plum pushes up rapidly, often 5 to 7 feet in a single season, making marketable trees the second year bud, the yearling tree being headed back to the height desired for the top.

In the plum orchard good culture will produce the best results; with neglect the trunks are rough and gnarly, sprouts shoot out from the trunk, tops uneven, with dead branches, sometimes affected with black knot—but still fruitful. We do not often find the plum in any locality with any life left that do not attempt to give a harvest. Lowish land will produce plums if well drained. Soil inclined to clay is the best, but, if rich, any soil will answer. One argument, which has some grains of truth in it, in

favor of not cultivating the plum, is on account of the ravages of the curculio, or Little Turk, which stings the plum, causing them to fall off. The plan being to plant the trees and inclose the chickens with them, when the plums drop containing the young they are pounced upon; should any escape it generally goes into the ground until next season, and its reappearance is deterred to the extent of the grounds being tramped upon.

The farther advanced the fruit the less chance of the insect destroying it, and it is better to have hogs or chickens in the plum lot during its season of fruiting.

The plan just given is the one generally adopted by reason of its being the easiest, perhaps, though not the best, as the tree will never bear such crops or be as vigorous as when given proper cultivation. Below we give the *two plans* which are the surest methods of destroying these pests.

1st. Shortly after the blossoms fall, and as soon as the presence of the insect is ascertained—by his crescent shaped work upon the young fruit—procure a sheet large enough to spread over the whole surface of the ground covered by the branches; slit in the middle, part way through, to allow the sheet to pass on each side of the trunk of the tree. Now *jar* the tree SUDDENLY, striking the tree with a heavy mallet; upon the stump of a limb is best. The insects—which closely resemble a pea bug or dried bud—will fall upon the sheet and remain dormant some minutes; gather them up with *thumb and finger* and destroy them. This operation, repeated every morning for two or three weeks, *will save the crop.* Destroy all stung fruit. This remedy is SURE, and far more feasible than is generally supposed.

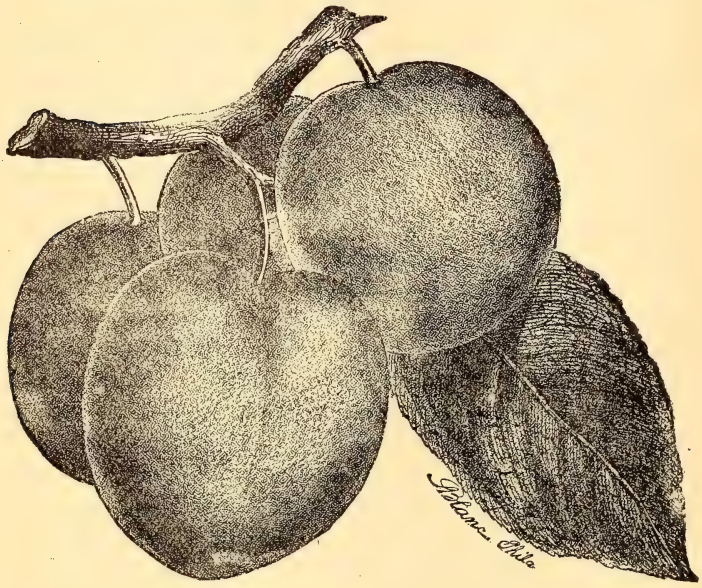
2d. But the easiest and quickest way of destroying this insect, where you have a spraying pump—and every fruit grower should have one—is to spray the trees with London Purple or Paris Green. *Gould's* Spraying Pumps, manufactured at Seneca Falls, N. Y., are the best. The manner of spraying is thus described in the May number of the American Garden, which says: "It might be well to print the following facts in relation to the successful culture of the plum in burnished letters of gold: We can grow all the plums, domestic and foreign, peaches, apricots, nectarines and other fruits—this includes apple which are infested by the coddling moth—in every part of this wide country where the trees will withstand the climate, without damage from the plum curculio, by spraying the trees with arsenical poisons; Paris Green and London Purple, (we prefer the London Purple as it does not require so much stirring), one pound of either to fifty or sixty gallons of water, (we prefer to use eighty gallons to the pound,) properly applied with a spraying pump—first, just before the blossom buds open; second, two weeks after the petals fall. If a weak soap emulsion is used at *this* spraying to mix the poison in, it will also destroy the leaf lice, bugs, aphis and other insects injurious to the fruit and foliage. Then a spraying about June 10th and your fruit is safe."

☞See cuts of Gould's Spraying Pumps.

In selecting varieties for any locality it is to be remembered that, while they may do well in some places, in others, for some cause lacking either in climate or soil, they are failures. It is our aim to DESCRIBE only such as we have seen bearing and healthy in your vicinity. We will give the names of others which, in our opinion, may prove profitable there as they have in other places of near the same influences.

They are: *Wild Goose, Langdon, Newman, Robinson and Lombard.*

## THE WILD GOOSE PLUM.



**Wild Goose.**—Originated in Davidson county, Tennessee. Its name is claimed to be derived from the fact that a pit of a plum was found in the crop of a wild goose, and, being planted, produced this variety. Other stories, equally unfounded, give it a different origin.

The fruit is large, 1½ to 1¾ inches long by 1¼ broad; color bright vermillion red with numerous whitish dots toward the apex. Stalk very slender, short; flesh rather coarse, juicy, vinous and pleasant; compared with the fine foreign varieties, (not hardy here,) can be classed as second rate in quality, though *far* superior to any wild plum. Tree very vigorous; leaves light green; very productive; maturing beginning of August; as a market fruit it is very desirable, combining fine size, beautiful color and good quality.

This plum is better known, perhaps, than any other variety, and in Central Illinois and Indiana it is especially a favorite, as it combines hardiness, good quality and productiveness.

**Lombard.**—Large, delicate violet red, pales in the shade, thin bloom, flavor pleasant, juicy, rich. Tree very vigorous, hardy, very productive, and popular as a market sort. Last of August to middle of September.

We believe this to be the best variety of plum for your locality of any, and feel safe in assuring success where it is planted, both for pleasure and profit, as in quality it stands at the top and is hardy and productive. We have saw it fruiting in Vermillion Co., Illinois, and Benton, Indiana, and giving satisfaction at both places. It has fruited with us these many years seldom failing; we have sold the fruit as high as $5.00 per bushel.

**Robinson.**—This is a seedling grown by Mr. Pickett, of Putnam Co., Indiana, from seed brought from North Carolina nearly fifty years ago, and has almost every season, (since large enough,) borne abundant crops, but was not brought to public notice until 1879, when Dr. H. Robinson, (of the same township,) read a paper before the Indiana Horticultural Society on Chickasaw plums, giving a flattering description of this plum, which he had watched since 1872, and of which he said that he "had two good crops on his own trees which bore two bushels to the tree five years after planting, and have borne good crops annually, excepting once when killed by late frosts.

It was named by the Putnam County Horticultural Society in honor of Dr. Robinson.

Fruit slightly oblong, nearly round, with an indistinct suture; color a pretty marbled red on yellowish ground; flesh, when fairly ripe, very fine, almost sweet, juicy; when cooked it is one of the best, having little of that astringency common to some of the Chickasaw class, and very rich. A fine canning plum. Seed small.

Dr. Robinson planted one-fourth of an acre in Robinson in 1882, and in 1885 he gathered 25 bushels, which he sold readily at 25 cents per gallon, realizing $50.00 for the third years' crop.

LAWRENCE CO., IND., Oct. 12, 1887.

ALBERTSON & HOBBS, Bridge Port, Ind.:—The Robinson plum tree I got from you bears so full every year I do not see room for one more plum. I want some more trees. Yours truly,

W. W. MALOTT.

Albertson & Hobbs, who were the first to disseminate this plum, have received many letters from parties expressing pleasure at their success with the Robinson. One of them from Howard County having a fine crop on six trees which, after three years, had to be tied up and propped to keep from breaking, and sending with his letter and order for 260 Robinson for himself and neighbors.

They having watched this plum the past five or six years, eaten by hand, or as a sauce for jellies, butter, preserves and canning to their entire satisfaction, recommend it highly. It has thoroughly proved, by tests and experience, that the Wild Goose and others bear much better when

near the Robinson, it being an excellent fertilizer.

A Mr. Marlon, of Iroquois Co., Illinois, has a tree planted in 1885 which in 1888 bore a full crop of fruit. We know of one man in Vermillion who has an orchard of 50 plum trees, 38 of them Robinson, every one of which are living and growing finely. He was so well pleased with them as to give us his order for 32 more trees.

**Langsdon.**—This is a plum frequently taken for the Wild Goose, which it closely resembles; it is, however, a month later in ripening and not quite as prolific, though seldom failing. Fruit is good size, juicy, and of fair quality. Should be set with Robinson, Wild Goose or Lombard as fertilizers. The Lombard is, perhaps, as desirable as any for the purpose, though the Robinson comes into bearing *two years* earlier.

**Newman's.**—Another offspring of the Chickasaw. Fruit medium, oblong; smaller than Wild Goose; color bright vermillion; flesh rather coarse and juicy, with a pleasant vinous flavor; adheres to the stone; tree vigorous; foliage smaller than the Wild Goose. In fertility it is truly astonishing; its fruit ripens about July 10th, lasting until about the middle of August. It cannot compare with the *finest* foreign varieties in quality, but it is sufficiently good to merit extensive cultivation. It is as free from insects as any plum can be, and ripens at a period unusual for its class.

John Diehl, of Hoopestown, Illinois, speaking of this plum in spring of 1887, says he has about 18 trees of it fruiting that in the past two seasons have borne near to 85 bushels of luscious fruit, which he disposed of at from $1.25 to $2.00 per bushel. The only care given them is to have them in the chicken yard and occasionally jar the trees and destroy what insects may infest them, which he says are very few as they seem to be almost free from the ravages of the curculio.

Other plums we may give favorable mention of are: DeSoto, Garfield, Miner, Damson, Marianna, Washington, Spaulding and Shippers Pride.

These have all been given favorable mention by horticulturists, and might do well in your locality, though we cannot endorse them as highly as those we have described, for we believe those are all successful, whilst a few of these last may prove failures. Hence, the old adage, "A bird in the hand is worth two in the bush," will do well to be observed, except for experimenters.

# THE CHERRY.

WHILE the cherry grows more rapidly by cultivation, it succeeds well along the roadside, by fences, and other uncultivated places.

The lanes or avenues leading to your residence will be a desirable spot to plant, not only for the benefit derived from the fruit, but its attractiveness will be enhanced as well.

*Do not* prune the cherry any more than is desirable to keep in good form —the less the better. Downing advises pruning in mid-summer when the gum is not exuding.

Do not pull the cherry from the stems in gathering; reject all wormy and defective specimens.

Cherries are not like Strawberries that must be gathered the day they ripen. They should be picked, however before they are fully ripe or soft if intended for shipment.

*Varieties to plant.*—For successful crops and hardiness, the following kinds planted as named for time of ripening:

Dyehouse, Early Richmond or May Cherry, Montmorency or Late Richmond, and the large English Morello.

*For pleasure and quality.*—The Heart species are the best, of which, Governor Wood, Yellow Spanish, Freeman's Pride, (new,) and Coe's Transparent are leading kinds.

The Dukes, or middle class betwixt the above classes, are frequently successful; next to the Heart cherries in quality and hardier. Among these are, Olivet, Luelling, Late Duke, May Duke and Lewis Phillippi.

Of the cheries mentioned, *the four hardiest* and the best of Dukes and Heart Cherries, will be described in order of hardiness and season of ripening.

**Dyehouse,**—This cherry compared with the Early Richmond is one week earlier in ripening, larger and better quality, good bearer, and believed to be as hardy as that popular sort. Medium to large; dark red, rich and pleasant when ripe; acid; desirable for the West and North-west.

**Early Richmond.**—(Early May.)—Medium, round, slightly oblate, growing in pairs; color a full red; stalk an inch or an inch and a fourth long; rather stout; stone adhering strongly to stalk. *Very productive;* fine for early cooking. Ripens early and hangs long on tree, last of May to middle of June. [Although the Early Richmond is not of first-rate quality, it stands unrivalled as the most hardy, productive variety known to the people. The Montmorency being the nearest approach to it of any, we believe.]

**Montmorency.**—(Late Richmond.)—This variety belongs to the same class as the Early Richmond, but is larger and bears better. It is very hardy and extraordinarily prolific, and can be recommended as a variety of great value.

**English Morello.**—Large, deep red; flesh acid, juicy and tender. A good

bearer and late. May be retarded without injury by shading. Popular in the North-west. The *common Morello* is a smaller sub variety, a little darker and with smaller branches.

**May Duke.**—Large, roundish, obtuse, heart shaped; color red at first, becoming nearly black when matured; flesh reddish, becoming dark purple; very juicy, melting, rich, acid; excellent. Quite early, but varying great ly in season, even on the same tree, those at top nearest the sun ripening sometimes a week before those on lower branches.

**Late Duke.**—Similar to the above, but is later in season, nearly if not quite a month. Like the May Duke it is an upright grower.

**Olivet.**—Large, deep red, rich, vinous, early, French.

**Coe's Transparent.**—Size medium, nearly globular, very regular; skin thin, pale amber, reddened in the sun, with peculiar pale spots or blotches, Stalk nearly an inch and a half long, moderately sunk; very tender, melting, sweet, excellent; early—just before Black Tartarian. Growth thrifty. Origin, Middletown, Connecticut. One of the most valuable of all cherries.

**Freeman's Pride.**—(New.)—An accidental seedling; native of Ohio. Tree hardy in Ohio, and an early and sure bearer of its class. Fruit larger than Early Richmond; light yellow shaded with bright red; somewhat astringent until nearly ripe when its flavor is rich, sweet and delicious; deserves a place in every collection. Middle to last of June.

E. Y. Teas, of Dunreith, and John Freeman, of Knightstown, Indiana, say it is the best cherry they have ever eaten. Originated at Tadmor, O.

# The Pear.

This is a favorite fruit, excelling the apple in delicacy of flavor, juiciness and beauty. While not so universally used for cooking, it is excellent when evaporated or canned.

The pear is not a native of this continent, but hails from Europe where it is grown in both its improved and wild state. The wild pear is hardier than the apple, but our improved pears are less hardy. This is owing to the fact that the originators have sought more after quality, size and beauty than hardiness in producing new sorts. It is proper now that we give more attention to kinds likely to withstand our severe winters and long dry spells.

The *blight* has preyed upon some varieties, doing considerable damage, whilst on the majority it has not touched. The cause of blight has been proved, to the satisfaction of many, by Profs. Burrill and Authur, to be bacteria—a creature so small as to enable thousands to sport in a single drop of fluid with as much freedom as fish play in the ocean. This discovery has removed much of the dread previously entertained of this disorder, though no remedy is suggested beyond cutting off the limb or branch a foot below the diseased point, and using great care not to spread the disease by knives used in trimming or pruning. We have Bartlett pears living yet that were badly blighted by this insect fifteen years ago, which were severely pruned; we believe this remedy is successful where used in time.

Another kind of blight, and more dangerous, is the frozen sap blight, which is caused by the ascending sap becoming frozen or clammy, in its downward course, so as to descend with difficulty; it chokes up the sap vessels, freezes and thaws again, loses its vitality and finally becomes dark and discolored; here along the inner bark it lodges and remains in a thick, clammy state all winter. If it happens to flow down till it meets with any obstruction, and remains in any considerable quantity, it freezes again beneath the bark, ruptures and destroys the sap vessels, and the bark and some of the wood beneath it shrivels and dies. In the following spring the upward current rises in its usual channel—the outer wood or alburnum—the leaves expand, and to all appearance the tree is flourishing. Toward the beginning of summer, however, the leaves commence sending the downward current of sap to increase the woody matter of the stem; this current has to pass through the inner bark, or liber, where still remains portions of the frozen and now poisonous sap. This poison

is diluted and taken up by the new downward current and distributed toward the pith and along the new layers of alburnum, &c. Should any of the adjacent sap vessels have been ruptured by frost, so that the poison thus becomes mixed with the still ascending current of sap, the branch above it immediately turns black and dies.

*The symptoms* of *frozen sap blight* are the following: The appearance at the season of winter or spring pruning of a *thick clammy* sap of a sticky nature, which exudes from the wounds made by the knife, the ordinary cut showing a clean and smooth surface. Also the appearance in spring on the bark of the trunk or branches, often a considerable distance from the extremities, of black, shriveled, dead patches of bark. The worst feature is in summer when the extremities shrivel and turn black, and decay as if suddenly killed. If these diseased parts are cut off the inner bark and heart wood will be found dark and discolored some distance below where it is fresh and green outside. If the tree is only slightly affected it may pass off with the loss of a few branches; but if seriously tainted, as when sap vessels are ruptured, the tree will gradually decline or entirely perish.

*Frozen sap blight* is caused by the tree taking a second growth, starting the sap to flowing late in the season, when by rights it ought to be in the roots of the tree. This form of blight generally occurs when we have a very early and sudden winter succeeding a damp and warm autumn; hence it naturally follows that trees planted in a damp, rich soil are much more liable to blight than those planted in a dry or clayey soil. In a soil over moist, or too rich, the pear frequently takes second growths and its wood is thus caught unripened by an early winter.

*For this reason* this form of blight is vastly more extensive and destructive in the deep rich soils of the West than in the dry and poorer soils of the East. Where trees are planted in the West on soils liable to promote second growth, pears cannot be profitable, but may be raised successfully by the following being observed:

First, buy such varieties as are not apt to grow late, or that the wood matures early. Second, where the season is very warm and damp check the luxuriance of your trees by root pruning, which is done by exposing, and sometimes cutting, the roots of your trees a suitable distance from the trunk according to its age and size.

We recommend the following pears to you. The early, or summer, are: Tyson, Seckel and Doyenne.

Autumn: Clapp's Favorite and Flemish Beauty.

Late Autumn or Winter: Duchess d'Angouleme, Anjou, Vicar.

The best pears to plant where you have a suitable site, not too rich or damp, are the Tyson, Clapp's Favorite, Bartlett, Flemish Beauty, Anjou and Kieffer's Hybrid. Where the soil is inclined to be damp, or too rich, you had better confine your choice to the first mentioned varieties; even then it may be necessary to resort to root pruning.

## PEACHES.

THIS delicious fruit flourishes in most parts of the United States. Its easy culture, early bearing, many uses and ready sale make it desirable and gives it an enviable place among the market fruits.

In order to preserve the health and longevity of the tree and the fine quality of the fruit, as well as to promote its bearing, it should be pruned every year or two so as to have a regular formed head by shortening the branches, and the land should not be seeded to grass, (except it be to check growth where there is great danger of winter killing,) but kept in constant cultivation. We know of a peach orchard, on but a few acres of ground, which was offered for sale in 1887 for $2,000, but owing to a failure in the crops for the past two or three seasons, was not sold; in 1888 the owner realized $3,000 net profit for the sale of peaches from it. Farther south, where crops are more certain and trees less liable to winter kill, peaches are planted by thousands, as also are they north in the vicinity of the Great Lakes.

*Where danger of winter killing exists* plant only a small orchard on deep, rich soil; if slightly sandy or clayey it will be all the better, but a heavy clay is not desirable; cut back well in the spring, and have the orchard well protected by windbreaks.

*Mulch* trees *early* so as to retard their blooming by keeping frost in the ground as long as possible, thus rendering them less liable to be nipped.

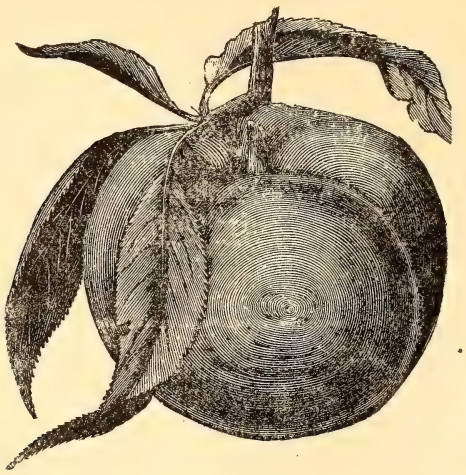
Some people plant their trees in a slanting position and lay the limbs down in winter, protecting them in this way from freezing and insuring a crop of peaches the ensuing season.

The following varietes are desirable, though many others are nearly as good: Crawford's Early, Crawford's Late, Smock, Hath Cling, Lemon Cling, Steadly, Stump, Arkansas Traveler, Hopkinsville Seedling. These last two and Crawford's Early reproduce from seed.

## APRICOTS.

THIS is one of our best early fruits and needs only to be known to be fully appreciated. It ripens a month before the peach and partakes largely of their luscious flavor. The tree is hardier than the peach and requires the same treatment. Should be planted about 12 feet apart. It comes into bearing young and bears well, but as it is an early bloomer it should be planted on the north side of a wall, or building, so as to retard its earliness. Moorpark and Peach are the best, though the Russian varieties are hardier. The varieties best known are: Alexis, Gibbs, J. L. Budd, Czar, Alexander, Nicholas and Catharine.

## PRUNUS SIMONI.--(APRICOT PLUM.)



NATIVE of Northern China. This is certainly a very novel fruit, the wood and bark closely resembling the peach. In smell and flavor it comes nearer the nectarine. Flesh a fine yellow, firm, and has a peculiar aromatic flavor not found in plums we cultivate. A brick red in color, thicker than long, and has a deep cavity at each end. It forms a symmetrical tree; leaves a shining green.

Prof. J. L. Budd, of Iowa Agricultural College, in summer of 1883: It will be the King fruit; better than any apricots and hardy here. In France it is placed at the head of plums.

In the report of the Pomologist, H. E. Van Deman, to the Commissioner of Agriculture in 1886, he says: *Prunus Simoni* is another new variety which was well reported by all who had experience with it. I saw it growing in several states and in all cases it has proven hardy and a thrifty grower. Perhaps the best information that can be given is to quote the words of Prof. T. V. Manson, of Dennison, Texas, on whose grounds I saw the largest trees: "It fruited with me in 1885 for the first time. The fruit, when ripe, shines like apples of gold. Ripens shortly after the Wild Goose, and showed no defects from the rot or curculio, both of which were abundant with me in 1885. It is very firm and meaty; equal to any blue plum I have ever seen; tree thrifty and upright; an early and abundant bearer; hardy in Iowa and endures Texas drouth to perfection.

Orchard and Garden, 1888: We fruited Prunus Simoni and Prunus Pissardi this year and found both good and valuable and of good quality when ripe, which is about the middle of August.

N. S. Pratt, Connecticut, says, in describing the Pissardi and Prunus Simoni: The Pissardi is of Purple color, both in skin and flesh; about one inch in diameter, cherry shaped, with stem two inches long, of fair quality, ripening August 1st. The Prunus Simoni is $1\frac{1}{2}$ inch one way and $1\frac{3}{4}$ to 2

inches the other; flesh firm yellow, having an agreeable apricot flavor without astringency. Skin pale green until nearly time to pick, when a handsome red spreads over it.

## QUINCES.

THE quince is, of late years, attracting attention as a market fruit. Scarcely any fruit will pay better in the orchard. The tree is generally hardy and compact in growth, requiring but little space; productive, gives regular crops and comes early into bearing. It is highly esteemed for cooking, preserving and flavoring other fruits; when put in proportion of one quart of quinces to four of other fruit, it imparts to the latter a most delicious flavor. It flourishes in any good garden soil, which should be kept mellow and well enriched; an occasional light top dressing of salt is beneficial; prune off surplus branches and thin the fruit if bearing too freely. Best well known varieties are: Apple, or Orange; Angers and Rea's Mammoth, of which the Orange is probably the best, but the *Angers* is the hardiest.

## MISCELLANEOUS FRUITS.

**Walnuts, Mulberries and Chestnuts, &c.,** ARE pretty generally known and much prized for their delicacy.

WALNUTS:—Black, Butternut and English.

MULLBERRIES:—Russian and Downing.

AMERICAN Sweet Chestnut.

We need not describe the Walnuts, Mulberries or Chestnuts. Let it suffice that the Downing is the best and largest mulberry, while the Russian is perhaps hardier, of quicker growth, and is frequently used for windbreaks in the west, &c. The Chestnut is unrivalled for beauty; where grown in the open ground it assumes an elegant, symmetrical form. It is very desirable on account of its nuts, which it bears profusely a few years after planting. It will thrive in any soil except a wet one, but does better where it is rolling or hilly and slightly sandy.

# Propagation of Fruits.

After careful observation, and many experiments having been made, we are fully convinced that budded and crown grafted apple trees are better, in every way, for the planter than trees grown from short pieces of roots.

In budding and crown-grafting a whole seedling root with its full system of laterals and tap-root is used for each tree. In piece-root grafting, so generally practiced, from two to four trees are made from every seedling, by cutting up the root into pieces from two to three inches long and grafting into each piece. Budded and crown-grafted trees have generally more than double the roots of ordinary trees, at three years old, and when taken from the nursery.

We have entirely discarded piece-root grafting, and bud and crown-graft all our apples, using only French Crab-seedlings for the same, and feel our trees are worth, in the end, to the planter, double the prices of trees grown from pieces of roots.

Seedlings to be budded are, when grown one year from seed, planted in the nursery rows from 8 to 10 inches apart, when, if they have made sufficient growth, they are budded the same summer. We generally bud in the following order: The pear, apple, plum, cherry, apricot and peach. Budding is commenced as soon as the sap is flowing sufficiently to cause the bark to spread easily and the wood of the buds to be inserted are sufficiently matured.

The bud is cut about an inch and a quarter long. Leaves are first trimmed off the stick containing buds, (which has generally 12 to 15 buds,) leaving the stem of leaf about one-half inch in length. Either bud to the North or West side as there is less danger of the wind blowing off the young and tender trees. Commence with a sharp knife 2½ inches above the ground; slit downwards one inch and a quarter nearly; make cross cut at top, slanting the knife so as to open the bark of tree, being careful not to cut into the wood. Now catch the bud by stem of leaf and insert. The average budder will place 2,000 in one day; an expert 4,000.

Tie the bud carefully with string, four wraps below and three or four above. Be cautious lest you injure the bud by the stem, for should you do so your labor is lost.

Grafting, either crown or piece-root, is generally done in the winter—January and February. Use roots similar to those planted in the spring for budding, which are, roots and all, about 18 inches long, the root part being from 8 to 12 inches generally. Now, where the top of this seedling and its root or fibers begin the first cut is made, after which make a slanting cut from you and with care slit the slant toward you, always using a sharp knife; if it is done this way and inserted in a cion off of the variety

you are grafting, which has been cut in the same manner about four inches long, and unite the two, using care that the side furthest from you is evenly placed so that it appears nearly smooth when you move your hand over the joint. This is called crown grafting, and you use the whole root. It is known to most nurserymen that the top part of the root is always the best and hardiest, as the lower part is softer.

In piece-root grafting the root first spoken of will be cut so as to make three or four grafts, according to its length. Naturally, the crown graft will produce more roots and fibers, hence it is sure to make the best tree. We are mostly budding, however, as we believe this is even better than crown grafting. We think the cut of grafting explains itself.

## SEEDLINGS USED IN BUDDING.

As we are frequently asked what kinds of stock are used to bud all the different kinds of fruits, we deem it a fitting time and place to tell just what kinds are used for this purpose; while we may possibly leave out a few of the minor ones, they are not of sufficient importance to create much of regret on our part.

Apple.—Seedlings are imported from France which are called French Crab; also, a great many are raised from seed of the apple grown here. Paradise stocks, (imported.) are used for budding or grafting dwarf apples.

Seedling Pear.—Mountain Ash, thorn and Osage are used in propagating pears. Neither of these, excepting the seedling pear, should be budded above the ground as the winds will break off the growing bud before it hardens or is well united. The pear seedling is the only one used by us as it is undoubtedly the best. The quince, (Angers,) is used for dwarfing the pear, which causes it to bear earlier, though rendering it shorter lived generally.

Plum, Apricot and Peach can all be grown successfully on Myrabolan Plum, Wild Goose or Marianna Seedlings. Apricot, Peach, or any common free growing variety, (avoiding the Damsons, which are not easily worked.)

Of these we generally use the Myrabolan and Peach, though sometimes using all of them. Peach and Myrabolan do not sprout. The Wild Goose and many other plum seedlings, though very hardy, are sometimes a great annoyance to the planter by their sprouting, equalling the common Morello in this respect.

Crab are budded upon the same stock as apple, though the French Crab seedling is the best.

Prunus Simoni or Prunus Pissardi are propagated on the same seedlings as the plum.

Fine Grapes, when budded and not propagated by cuttings, are used on the Concord or any other free growing hardy variety. They are also layered by putting down parts of vine and covering with moist earth.

GOOSEBERRIES can be raised by cuttings, but are generally grown in the nursery by ridges thrown up alongside of the rows and layering the young shoots.

THE RED RASPBERRIES, (except Shaffer's Colossal which don't sprout,) and Blackberries throw up sprouts from the root. Blackberries are also grown from root cuttings planted thick in rows; where the ground is moist is best.

BLACK RASPBERRIES are raised by covering the tips soon after the fruit is picked, but it is not best to put down until they are matured as they do not do well when the tips are soft.

THE STRAWBERRY propapates itself by runners, excepting the *Bush Alpines* which have no runners; it is propagated by divisions of roots.

EVERGREENS are raised from seed and cuttings.

ROSES, FLOWERS, &c., by budding and slips generally.

WEEPING TREES are all budded 5 to 6 feet from the ground.

MULBERRIES, (except Russian,) are budded.

## GRAPES.

THERE is perhaps no branch of horticulture receiving so much attention in the United States at this time as the cultivation of native grapes; and, since the introduction of new and valuable sorts, there is now no part of the country but what has several varieties adapted to its particular soil and climate.

The vine comes quickly into bearing, yielding fruit usually the second year after planting, requires but little space, and, when properly trained, is an ornament to the yard, garden or vineyard.

It is stated by some of the most eminent physiologists, that among all the fruits conducive to regularity, health and vigor in the human system, the grape ranks number one. We hope soon to see the day when every family shall have an abundant supply of this most excellent fruit for at least six months of the year.

We are giving our attention to the growing of vines of all the valuable hardy varieties. Those who have been disappointed by the late and imperfect ripening of the Isabella and Catawba, can now obtain grapes that are better in quality and far earlier in ripening than they.

While vineyards, if allowed, will sometimes produce four tons to the acre, it is not best for the health of the vine and uniformity of yearly crops, to suffer more than half this crop to grow, or two tons per acre.

Basing our estimates upon this safe average, and calling the market value of the new early kinds as low as five cents per pound, we have $200 per acre for the fruit. The yearly expense of caring for a fruiting vineyard, including picking, is estimated in the Lake Shore Growers' Association for 1868–1869, at $5.00 per acre. From five hundred to six hundred vines can be planted on an acre, eight or ten feet apart, according as the kinds are comparatively strong or moderate growers. We might multiply instances had we room. *Disappointment only follows those who persist in planting the old, late ripening varieties.* DON'T DO IT.

The soil for grapes should be dry; when not naturally so, should be thoroughly drained. The following is regarded as the best method: Commencing with a good, strong vine, such as we furnish, permit it to grow the first season without pruning. In November or December, following, cut back the growth, allowing but three or four buds to remain. The following spring allow but two of the strongest buds to throw out shoots. These, in the fall, will be from seven to ten feet long, and should be cut back to within four or five feet of the root. The next spring the vine should be fastened to the lower part of the trellis. When growth commences pinch the buds so that the shoots will be from ten to twelve inches apart. As these grow train them perpendicularly to the second, third and fourth bars of the trellis. No fruit should be allowed to set above the second bar of the trellis.

During the season when the shoots shall have reached the upper bar of the trellis, they may be pinched to prevent further growth.

The canes should be cut back to two buds in late winter or very early spring, but only one bud should be allowed to throw out a shoot; then treat as in the previous year. This system of pruning should be followed each year. Grape vines should be top dressed in the spring. Our cut of the Brighton Grape gives a very good illustration of this system of training.

The best grape vine trellis is probably the wire trellis. This is constructed by planting posts as far apart as you choose to have the length of your trellis, stretching the wires, four in number, about eighteen inches apart, letting them pass through stakes at proper distances from each other to support the wire. As the wires are contracted by cold, and are liable to break or sway the posts from their place, they should be loosened as cold weather approaches.

When, however, it is not convenient to make a wire or other trellis, very good results are had with the old vineyard system of training to stakes. The vines are planted six feet apart, in a place exposed to the sun and protected from cold winds, and are trained to an upright stake.

Frequently we see grapes growing along the porch or veranda, or else winding around the branches of some friendly tree, along side of the woodshed or other outhouse, &c.

## MANURING THE GRAPE.

ANY land that is rich enough to bear 40 bushels of corn to the acre is rich enough to grow grapes. I have not used manure after planting. I have used applications of bone and ashes, and sometimes of bone and potash salts, with occasional plaster of paris mixed with it, because the grape requires more or less sulphur in the soil; the plaster of paris is the cheapest way you can get it. It is sulphate of lime. You can buy a ton for five dollars. The reason why you don't want to apply animal manure largely is that it produces a rank, coarse growth of wood and foliage, which is unfavorable to the production of fruit. You want a fair moderate growth of wood and that is all. You want medium sized wood. The cane should be about the size of your little finger, and it will bear bigger bunches and more of them than if it is three times as large. You want to have them well ripened. Stimulating the vine by animal manure makes it grow until late in the fall, and the fruit will not ripen as well. The fruit buds do not thoroughly develop until the wood is partially ripe. I think you can make a much stronger fruit bud by moderate manuring than if you put on too much animal manure. J. B. MOORE.

## GRAPES SHOULD BE EATEN.

FARMERS well understand if they keep their horses on too concentrated diet that their stomachs get out of order, and they have to be turned out to grass to give them a chance to recuperate. The human animal suffers as much from the violation of Nature's laws as any other. Our dyspeptic stomachs are constantly sounding the alarm from our eating too much meat and too little fruit. Our system is constantly calling for the elements contained in the outer coating of our fruits, grains and roots. Twelve thousand dentists are employed in the United States hammering gold into our teeth, mainly because we live on an unnatural diet—too concentrated and refined food.

As fruit is largely indicated as a requirement of our system, how shall it be eaten to best fulfill the demand? It has been demonstrated by chemical analysis that a large portion of the bone-making material is found in the skins of our fruits, grains and roots. This brings us to the test of a good grape. No grape should be considered good unless it can be eaten, pulp, seeds, and skins, with added relish. At the grape cures in France the patients are required to eat whole grapes, pulp, seeds, and skins, to get the whole benefit of the dietetic treatment. At the inebriate cures all cases are considered hopeful where they can be induced to eat largely of fruit, the fruit overcoming the desire and destroying the taste for liquor.—*Mich. Hort. Report.*

## HOW TO EAT GRAPES.

No! the man who holds the grape between his thumb and dexter finger and squeezes or shoots the pulp into his throat, does not know how to enjoy the fruit, and is not likely to appreciate the good qualities of a fine grape. Let the berries follow each other into the mouth in rapid succession until three or four are taken, while with each insertion the teeth are brought together upon the seeds without breaking them. The acid of the pulp is thus freed to mingle with the saccharine juice next the skin, and a slight manipulation by the tongue separates the seeds and skins from the delicious winey juices; after this has tickled the palate, skins and seeds may be ejected together. Close to the skin lies a large part of the good flavor of the grape.—*Rural New Yorker.*

## DESCRIPTIONS OF DESIRABLE VARIETIES.

It has occured to us that a list of grapes that can be recommended for the middle and northern states will be desirable. It is not safe to say that all of these will succeed in your vineyard or garden. The reader must satisfy himself on that point by observations about his home. This list is not intended to embrace all that will succeed, but the most prominent varieties.

**Agawam** (Roger's No. 15)—The originator considered this the best of his red hybrids. It is a favorite with us, being exceedingly vigorous and healthy, with beautiful rich foliage, yielding heavy crops each season. The clusters are large and moderately compact. Berries large roundish, dark red. Skin thick, making it a good shipper and keeper. Flesh tender, juicy, rich and aromatic. It ripens soon after the Concord. We will caution the reader not to permit the Agawam or other Roger grapes to overbear, as is their tendency. By trimming you get larger clusters, earlier ripening and a longer lived and more vigorous vine.

**Brighton.**—It is equal to or better than the Delaware in flavor and richness, with even less pulp; very sweet, pure and delicate in character; an excellent table fruit.

*Vigor and hardiness of vine.*—The vine grows with great rapidity, ripens its wood early, and proves fully as able to stand our severe cold as the Concord.

*Early ripening.*—The Brighton ripens along with the earliest good sorts—the Delaware, the Eumelai and the Hartford. This is a peculiarity of especial value at the North, and in the Middle States in many localities.

*Beauty and size of fruit.*—It is as large and beautiful as the Catawba, which it resembles in color and form of bunch and berry.

Too much can scarcely be said in favor of this popular variety as to quality and other qualifications. In color, form and size of both bunch and berry it resembles Catawba, but ripens earlier—soon after Delaware—uniting the sprightliness of the Catawba with the sweetness and richness of the Delaware. Vine a free grower and productive. Rochester is proud of having been the birthplace of the Brighton.

**Concord.**—This variety has done more to make grape growing popular in this country than any other, owing to great vigor, health, never-failing productiveness, early ripening and hardiness, as well as being easy to propagate. Bunch large, compact shouldered. Berries large, round, black, covered with bloom. Skin a little tender, sometimes cracked. Flesh juicy, sweet and pleasant; pulp not remarkably tender or inviting. He who has vines of the Concord long planted will have grapes, no matter what culture or neglect; season early.

**Delaware.**—The friends of this grape are numerous all over the northern and middle states where it proves hardy, healthy and productive. It is exceedingly difficult to propagate, and is a slow grower, the first few years especially. But whoever has patience to care for it until it gets a good start upon the trellis, will be well rewarded. It is remarkably hardy, and ripens immense burdens of fruit without injury. Yet it is wise to thin it. Bunch small, compact, usually shouldered. Berries smallish, round; skin thin. Color beautiful light red, almost transparent. No toughness or acidity of pulp. Flesh tender, sweet, vinous and enticing, yet not so pronounced and satisfying as some others.

**Lady.**—This has been a favorite with us from the start, owing to its very early ripening; fine, large, showy clusters, hardiness, persistent but moderate growth, and its ability to withstand disease and adverse circumstances. While it is somewhat foxy, it is sweet and good, and at the date when it ripens will be enjoyed by all but the connoisseurs. Bunch large, shouldered. Berries greenish white. Skin thick; a good shipper and good keeper (for an early grape.) Flesh a little pulpy, but palatable and refreshing.

**Martha.**—A new variety comparatively, being a seedling of the Concord, which it resembles in vigor of growth and hardiness. Bunch of good size, and berry large; of pale green or light color; buttery, sweet, juicy and sprightly. As a hardy, light colored grape it stands unrivalled.

**Moore's Early.**—This is a valuable variety of recent introduction, ripening about two weeks before the Concord. We hear good opinions of it from all parts of the country, and our experience would lead us to endorse them. It is hardy, healthy, productive and early—four important qualifications. It is slow to take root from cuttings, hence the vines will never be sold very cheap. Bunch medium; berries large, roundish; skin black, covered with bloom; flesh juicy, sweet, agreeable, a little pulpy; of the Concord type.

**Lindley.**—President Wilders considers this the best of Rogers' hybrids,

and there are many who will agree with him. It is remarkably vigorous, large, healthy foliage, a good bearer, and best of all, early; ripens with concord. Bunch long, medium size. Berry medium, roundish, red. Flesh tender, juicy, sweet, aromatic.

**Niagara.**—This grape, owing to the original methods adopted by the disseminators, has been more thoroughly tested thoroughout the country than new grapes are as a rule. The general verdict is that the Niagara is destined to be a popular variety, the grape for the millions. It is a rampant grower, is easily propagated; yields immense crops of showy fruit. Bunch large, compact. Berry large, roundish. Skin yellowish white, with thin white bloom. Flesh tender, sweet and agreeable. While the quality is not the best, it is quite acceptable, ranking as good or better than Concord. Season soon after Concord.

**Pocklington.**—Our attention was attracted to this beautiful variety long before it was disseminated. It has fulfilled its promise, succeeding generally. Bunch large, shouldered, compact. Berry large, roundish. Skin almost golden when fully ripe, covered with thin bloom. Flesh juicy, sweet, pleasant and refreshing; ranking about with Niagara in quality.

**Worden.**—This grape had a hard fight for its place among the most valuable early varieties. For many years its glory was clouded by conflicting testimony. Now it comes out of the mist smiling and triumphant. Seen fruiting beside Concord it is entirely different in many respects, and we can but wonder that it should ever have been thought to be the same. It is difficult to propagate, hence the high price of vines. Bunch large, shouldered. Berries very large, rounded. Skin black; rather tender. Flesh tender, juicy, sweet, enticing; better than Concord.

**Wilder.**—Wilder and Barry are so much alike that you hardly need both. Both are Rogers' seedlings, both are black, large clusters and berries; ripens soon after Concord. Both are far superior to Concord in size, quality and beauty.

**Wyoming Red.**—A very early bright red grape, something like Delaware in appearance, longer clusters, bright red, not so good quality. It is a hardy, productive and valuable early grape where high quality is not indispensable.

**Woodruff Red.**—I first saw this handsome red grape at Ann Arbor in 1883. It is one of the most vigorous growers, with healthy foliage, and appeared to be one of those varieties that will succeed anywhere without nursing. The vines has much to commend the variety. I did not then have a fair sample to test, but last fall a friend sent me a large basket of the Woodruff Red. As I drew the large clusters from the package, I was struck with the beautiful display, large, compact cluster, berries of mammoth size, and an attractive red color. This grape cannot rank high as regards quality. It has a pleasant flavor, but there is too much pulp to please the fastidious. But it improves after picking, the pulp appearing

partially to dissolve and become more tender. It will prove a good keeper and will endure long shipment. I think it will sell well in the markets. As regards health and vigor, it is all that can be desired.—*Chas. Green.*

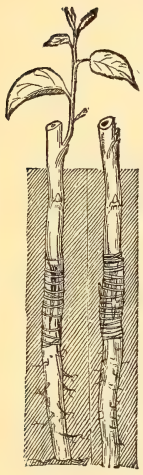
[The foregoing descriptions of the different varieties of the grape were edited by Chas. Green, of Rochester, N. Y., editor of Green's Fruit Grower, devoted to Horticultural matters.]

*Some Grapes* that have proven hardy and good, both in flavor and yield at Ottawa, Canada, at an elevation of 1,200 feet, out of nearly a hundred varieties planted six years ago, were reported at a meeting of the Ontario Fruit Growers' Association to be: *Black*—Wilder (Rogers' No. 4,) Worden, Moore's Early, Concord and Barry. *Red*—Delaware, Brighton, Lindley, Agawam (Rogers' No. 15.) *White*—Niagara, Lady and Martha.—[Taken from the January number of Popular Gardening, published at Buffalo, N. Y., and is, we believe, the *best* horticultural journal published.]

The kinds we will recommend for you are: Lady, Martha and Niagara for White; (the Pocklington is destined to take a place with these, also.) Brighton, Agawam (Rogers' No. 15,) and Woodruff Red for red. Worden, Moore's Early and Wilder for black. We do not say others will not succeed with you, but feel satisfied that these *will*. If we were to choose one red, one white and one black, they would be Brighton, Martha and Worden, though *all* are of the best and hardy.

THE BRIGHTON GRAPE. [RED.]

## ITEMS OF INTEREST.



Cut of Grafting.

### OUR TESTIMONIALS.

HENNING, ILL., Jan. 7, 1889.

MRS. A. D. FREEMAN & SONS, Tadmor, O.—It gives me pleasure to say that the trees you furnished me are first class in every particular.

I shall recommend you as dealing in the best stock, and as being worthy of patronage, both as to quality and prices.

Please fill enclosed order for spring delivery, and oblige

Very truly yours,

J. W. PUTMAN.

TADMOR, OHIO, August 10, 1885.

H. W. FREEMAN, Hoopestown, Ill.—Dear Sir—Yours at hand. We can truthfully say that we have been acquainted with the nursery firm of Mrs. A. D. Freeman & Sons for a number of years, and can recommend them as in every way trustworthy. Respectfully,

N. H. ALBAUGH & CO.

LIBERTY, Indiana, April 7, 1886.

MRS. A. D. FREEMAN & SONS.—The trees you sent me at Richmond, Ind., came in good order. I was much pleased with them. I herewith remit by registered letter. Respectfully yours,

W. J. HOWE.

WE, the undersigned citizens of Hoopestown and vicinity, do hereby certify that the trees delivered here the past seven seasons by Mrs. A. D. Freeman & Sons' Poplar Grove Nursery, Tadmor, Ohio, were good, thrifty trees, and all that they were recommended to be; that they are growing and doing well, having given universal satisfaction, and as patrons recommend the firm worthy the patronage of all.—Thomas Bennett and Abram Mann, Rossville, Ill.; S. D. Smith, W. P. Peirce, Jacob Dazey, W. R. Wilson and John Park, Hoopeston, Ill.; Jacob Alt and Geo. Hammerton, East Lynn, Ill.; Samuel Cooling, Goodwin, Ill.; Joseph Galloway and Peter Fraley, Wellington, Ill.

## CURRANTS.

THE currant is undoubtedly worth much more care and attention in its general cultivation, on account of its exceeding hardiness, succeeding well in almost all soils and localities; its great productiveness and its excellent fruit, which may be used so very early in the season, together with the variour forms of its uses; its peculiar fruitfulness in unavoidable seasons, when most other fruit fails, at which time this will be found almost invaluable for tarts, jellies, and for pleasant condiments to many dishes, by which its fruit is made of such vast importance as to make its extensive cultivation almost indispensable.

Currants can be used in so many ways, for making tarts, jellies and jam, wine and other wholesome and refreshing drinks so very palatable in warm, sultry weather, that every family should have from one dozen to one hundred bushes to furnish a supply for the year.

Set four feet agart in rich ground; cultivate well or mulch heavily; prune out old wood, so that each remaining shoot will have room to grow. Manure freely.

A sure remedy for the currant or gooseberry worm: This worm makes its appearance in June. The eggs are deposited by moths of dull, nankeen yellom. These soon change to worms which rapidly eat up the foliage. Dusting with white hellebore every three weeks, or putting one ounce to two gallons of water and sprinkling on the bushes is good. But we think

the best and *simplest* plan, and attended with *no fear* of danger, is to spray the bushes with soap suds and salt, in the proportion of one pint of salt to two gallons of warm soap suds. This remedy keeps the worms off of not only currants and gooseberries, but roses and cabbage as well.

The best varieties to plant are the Fay's Prolific, Cherry, Red Dutch and La Versailles. The White Dutch and White Grape are both good, but not so hardy or good bearers as the others. The Fay's Prolific is probably the best currant for all purposes, though the La Versailles and Cherry are fairly reliable and hardy, as is also the Red Dutch.

Lee's Prolific is a new foreign variety; well spoken of.

**Fay's Prolific** has been cultivated for some years alongside of all the best and most popular old varieties, and has sustained all claims that were made for it by the originator, which were: As large as Cherry, berries much more uniform, with larger stems, and fruit less acid, and far more productive. It will undoubtedly take the place of Cherry and Versailles, both for home use and market.

ALBERTSON & HOBBS.

**It is described** in our catalogue as follows: New; remarkable for productiveness and size of berry, bunches measuring four to six inches in length. Color rich red; much less acid than any currant grown by us. A great acquisition.

*This* was several years ago, and we can unhesitatingly speak as well of it now as then from our own experience, as well as a great many others.

We have sold a great many Fay's in the west, and all who have had them to bear that we have spoken with, praise it. One man bought eighteen which pleased him so well that he ordered forty more. He is not in the gardening business, either, but believes in planting plenty of fruits, not only for himself but for his family, and a few for his neighbors.

# GOOSEBERRIES.

THE gooseberry is a very valuable crop for market, easily grown, yielding one hundred and fifty bushels per acre, is rapidly gathered with gloves on, and by running through a grain fan the leaves and light materials are blown out, when the berries can be put in barrels and shipped to the best market, as they bear transportation well for a long distance. Set the plants three feet distance in rows, five feet apart, requiring about three thousand plants per acre. Great improvements have of late been made in the American varieties, constituting a new era in the culture of this indispensable fruit.

## AMERICAN VARIETIES.

**Downing.**—Fruit somewhat larger than Houghton; whitish green, with the rib veins distinct; skin smooth; flesh rather soft; juicy, very good. Excellent for family use. Very productive. We believe this to be the best American variety grown.

**Houghton's Seedling.**—Fruit medium; skin smooth, pale red; flesh tender, sweet, and very good. Very productive, and generally free from mildew.

**Mountain Seedling.**—Large, roundish oval; pale red; skin thick; quality medium. Plant a rapid grower, spreading habit; very productive. Originated with the Shakers, at Lebanon, State of New York.

**Smith's Improved.**—Raised by Dr. Smith, of Vermont. This variety has the habit of growth, slender shoots, and medium vigor of the Houghton, with a much larger fruit, of a pale yellow or greenish yellow color; skin thin; excellent flavor; not surpassed by any other sort for eating and cooking quality. It ripens early and is in use before other varieties.

## ENGLISH VARIETIES.

This class is much more liable to mildew than our native varieties, but their large size and their superior flavor still commands a place in the garden of the amateur.

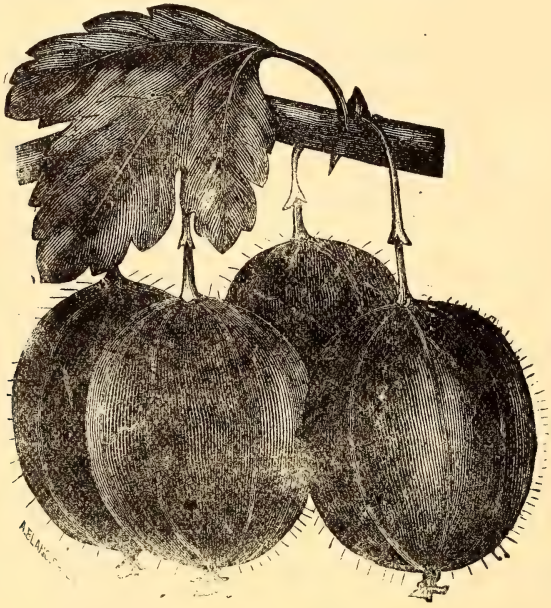
**Crown Bob.**—Fruit large, oblong, hairy; flavor first rate; best red.

**Whitesmith.**—Fruit large, roundish oblong; flavor first-rate; best white.

## NEW GOOSEBERRY--"INDUSTRY."

THE best English Gooseberry yet introduced; of vigorous, upright growth; a greater cropper than any other known variety, and shows no signs of mildew. Berries of the largest size, one and one-half inches in diameter, and of most excellent flavor; both pleasant and rich. Color, when fully ripe, dark red.

The above description of the Industry comes from the well known and responsible firm of Storrs and Harrison, Painesville, Ohio.



**The above cut** shows the berry as near to nature as it is possible for pen to describe. We have sold a great many gooseberries of all kinds, but none have been so highly spoken of as has this one, and we have yet to hear of the first instance where it has mildewed. We do not say it will never mildew, as who can foresee the future; but, judging it by the past, we believe no fears need be entertained of this disease.

The following communication was received at Washington, D. C., in June 1886, by the A. A. of Nurserymen:

*To the Members of the American Association, in Convention:*

GENTLEMEN:—The following particulars of English Gooseberries may be of interest to the Nursery trade of America. In the year 1881 we first sent a collection of Gooseberries to America, the principal varieties being Sulphur, Ashton Seedling, Whitesmith, Crown Bob, Lancashire Lad, Keepsake and Industry. The last named variety being introduced by our firm prominently to the Nursery trade about 20 years ago. The well

known firm of Messrs. Ellwanger & Barry, of Rochester, N. Y., were the first to discover that the variety sent by us under the name of 'Industry' possessed such a robust constitution that it was destined to mark an epoch in the cultivation of the Gooseberry on the American Continent. As the American nurserymen understand the fatal mildew attacks all native raised, French or German introduced varieties, and now for the first time a variety has been discovered possessed of such a vigorous habit that it successfully resists all the deteriorating effect of climate and perfects its crops as in old England.

Industry Gooseberry in this country has the same superiority of vigorous growth, and in addition the flowering period being later than all other varieties damage from the effect of spring frost is thereby averted. Strange to say, although it is the latest of all to bloom, it swells so fast that it is the first to be sent to market in a green state. We have cut a sprig from Industry, labeled No. 1, and also Keepsake, which is labeled No. 2, to-day, May 29th, and will post them in a little box to exhibit at your meeting, which we trust will reach you safely and in a good state of preservation.

Allow us further to state after a prolonged and severe winter we are now having heavy rains and the nursery crops are looking well; so anticipate a good nursery season for the growth of all kinds of trees and shrubs. As an English Nursery Firm we conclude with our best wishes to you, our cousins in the great Continent of America, and we recall with pleasure that you are nationally the younger brethren of this old family of England. (Signed)

CLARK BROS. & CO.,
Nurserymen, Carlisle, England.
"Medallists of the English Aboricultural Society."

WELLINGTON, Ill., Jan. 25, 1889.

MRS. A. D. FREEMAN & SONS:—Dear Madam—Your favor of the 4th inst. at hand and contents noted. Would say we are pleased with all fruits purchased of you. Apple trees have shown fruit, and we find them excellent. Gooseberries have borne, and Mrs. Cook says she finds them much larger, sweeter, and in every way *superior* to all others she has seen.

Yours respectfully,
THOS. COOK.

THE above is in answer to our query as to how our trees had prospered, and if the Industry Gooseberries had fruited.

Further testimonials could be added if needed, but enough has been said to convince any one of the superiority of this variety.

# RASPBERRIES.

RASPBERRIES ripen soon after strawberries, when there is not much other fruit in the market, hence they are eagerly sought after and sell at high prices, and the same crates and baskets being used for both, there is no additional outlay for packages.

The management of hardy Raspberries is very simple; plow and prepare the ground as for potatoes or other crops; mark the rows six feet apart, and set the plants three feet distant in the rows, using 2,500 plants per acre.

The tops should be cut down within a few inches of the ground, that the roots may become well established before they are required to supply nourishment for long tops of green foliage.

Potatoes or other vegetables may with advantage be grown between the rows the first year, after which the Raspberries will require the whole space. The old tops which have borne fruit should be removed before the following spring, and the young canes shortened in about one third of their length, so they will stand firm and erect, bearing heavy crops without stakes, trellises, or protection of any kind.

**Souhegan.**—Originated in New Hampshire. Perfectly hardy, very prolific, berries often three-fourths of an inch in diameter; ripens before any other black cap known, of superior quality, a clear black without bloom. A new and promising variety. (See cut.)

**Gregg.**—New. Fruit very large—one half larger than Mammoth Cluster; very distinct; firm, and of excellent quality; strong grower and a prodigious bearer. Considered the finest black cap raspberry exhibited at the Centennial.

**Mammoth Cluster.** (McCormick)—This is one of the largest and best black caps yet produced, is of excellent quality, quite hardy, vigorous and productive. Ripens just after the Doolittle.

**Cuthbert.** (Queen of the Market)—This new red sort is looming up as the most valuable red raspberry grown, especially for market. A reliable fruit grower near New York writes: "The Cuthbert is a new, large, rank grower—branches and roots nearly as large as a blackberry bush. Fruit nearly as abundant as the Brandywine, but much larger; better flavor, and *much firmer*—making it the *finest market* red raspberry."

**Shaffer's Colossal.**—Fruit very large, roundish, purplish red, turning to brownish red when fully ripe; firm when first colored, becoming soft when over ripe; juicy, brisk, rich, growing sweeter the longer it ripens. Good to very good. Canes strongly erect, often nine to ten feet high. *Can be made everbearing* by cutting out part of the bearing canes in the spring. Season medium; holds on very late.

This variety is *propagated* from the *tips* same as black raspberries—an important feature to a great many who dread the young shoots so common to red raspberries.

Introduced by C. A. Green, and is exceedingly popular. It is said to be very hardy, though some doubts were entertained of this when first introduced. More vigorous and yields more fruit than any other variety.

# BLACKBERRIES.

THE blackberry has become one of our most valuable species of fruit, ripening as it does just at the season when there is little other fruit in the market—after strawberries and raspberries, and before peaches and grapes make their appearance; its large size and luscious flavor, its medicinal qualities, in syrups, and its various uses for culinary purposes, and the highly refreshing wines which is being made of it, easy culture, hardiness and productiveness, make it almost unequaled as a wholesome and profitable market fruit.

Plant in rows from six to eight feet apart each way; give frequent and thorough cultivation. Pinch back the young canes as soon as they have attained the heighth of three or four feet; this will induce them to throw out laterals on which the fruit is borne. Thin out the old canes in Spring, and when planted in small lots, not practicable to cultivate with the plow, mulch occasionally.

**Taylor's Prolific.**—A new variety of great merit. Plant entirely hardy; berries large, sweet, and exceedingly luscious. In speaking of the Taylor Prolific, the Indiana Farmer says: "In very many respects it is the finest and most promising blackberry that we have yet seen. Nine years of cultivation and trial prove it to be a good grower, very hardy, bearing large, luscious sweet fruit, and a large amount of it. Before us is a branch 20 inches long, containing 250 uniform and well formed berries, which hang in clusters much after the manner of grapes. It seems to us that a trial of nine years with uniform results—of no failures in bearing—superiority in quality and hardiness, ought to place this berry in the front rank for all purposes.

**Snyder.**—A marvel for productiveness; fruit medium size, sweet and melting to the core. Because of its smaller size it does not sell as well as the Dorchester, Kittatinny, or Lawton, but its value, of course, is its extreme hardiness, standing the winters in those sections where the Kittatinny, Lawton and Dorchester kill down.

**Stone's Hardy.**—A marvelously productive and hardy variety. Medium size, good quality, season early. All who plant Stone's Hardy will get plenty of sweet fruit. I have planted it for several years and have often pointed with pride to the canes bending low with ripe berries in the greatest profusion. Its origin, Wisconsin.—C. A. Green.

**Lucretia Dewberry.**—This is perhaps the best of all the dewberries, but we cannot believe its present popularity will be lasting. It must have support or its canes and fruit will sprawl upon the ground. The quality is poor compared with the best blackberries. Berry large, handsome, and productive generally. It is propagated from the tips same as black raspberry. Origin, Virginia.

# STRAWBERRIES.

First of the "small fruits," in the month of June, comes the beautiful, wholesome and appetizing Strawberry, and one, too, of our most reliable crops. Our highest estimate of the real excellency and rich luciousness of the Strawberry is only attained while enjoying its luxury.

New sorts of great merit are constantly coming forth, many of them for elegance of form, brilliancy in color, great size and firmness to bear transportation, all combined, with table qualities of the highest order, and so immensely productive as to supercede all our old and well-known sorts, and to cause an almost *furore of excitement* in their cultivation

Plant in rows three feet apart, and eighteen inches apart in the row. During Winter cover with coarse litter, straw, or leaves, to protect from freezing out. The increase in the size and quality of the berries will well reward the labor for so doing.

**Sharpless**—Among the new kinds, we think nothing can compare with this. The fruit is large to very large, an average specimen measuring one and one half inches in diameter. A large berry, exhibited at the Nurserymen's Convention in Rochester, weighed one ounce, and measured seven inches in circumference. In form it is generally oblong, narrowing to the apex, and irregular and flattened. Color, clear-bright red, with a shining surface; flesh firm, sweet, with a delicate aroma. In quality it ranks with the Triomphe de Gand. The plant is very vigorous, excelling even the Monarch of the West. After growing it side by side with the best new sorts now in cultivation, we consider it superior to them all.

**Crescent Seedling**—Medium, conical, very uniform, bright scarlet, beautiful, and very firm; commences to ripen with Wilson's Albany, and continues in fruit longer; has been shipped 200 miles without changing color. The plant is a most vigorous grower, taking entire possession of the ground, preventing weeds or grass to grow, and requiring but very little cultivation. It is stated and confirmed by good authority that it produced the past season the enormous crop of fifteen thousand quarts to the acre.

**Jumbo**—A magnificent variety, and one of the best. Berries immense, fine, perfect form, regular, handsome, and of fine flavor. Plant very vigorous and productive.

**Wilson's Albany** is still doing well in many places and though of only second sale quality, its other good points makes it a very desirable berry. Fruit is medium, and is too well known to need further description.

Other good and prolific berries are the Jersey Queen, Bubach No. 5 and the Jesse. The last two named being the latest *valuable* additions. The Jersey Queen is large and especially valuable in Indiana and Illinois, where it does best.

Jersey Queen, Crescent Seedling and Bubach No. 5 need fertilizers. The best are Sharpless and Jumbo.

**Asparagus**,—Conovers Colossal.—A mammoth variety of vigorous growth, sending up from fifteen to twenty sprouts each year, one inch in diameter, color deep green, and grown very close.

**Rhubarb, or Pie Plant.**—This deserves to be ranked among the best *early* fruits in the *garden*. It affords the earliest material for pies and tarts, continues long in use and is valuable for canning. Make the border very rich and deep.

Myatts Lumaens and Peach Pie are the best varieties.

A great many are planting Dwarf Juneberries, which we can furnish in small quantities at reasonable figures.

Hackberries are with some taking the place of gooseberries both for canning or cooking purposes, answering for cranberries which cannot be grown successfully without a low situation where the patch can be occasionally flooded. High Bush Cranberries are so much time and money lost, as well as faith in tree agents who have spoken in its praise.

If people will only look at things as they are, and not as they desire, in these new fangled fruits, it might save them many a bitter thought. *The best plan is,* Take a *good* Horticultural Journal, which exposes frauds and commends valuable acquistions, &c. Then *buy only* of *well known* and responsible firms, or their agents.

# TREES, SHRUBS, ETC., FOR ORNAMENT.

We are just beginning to appreciate the value and importance of planting Ornamental Trees, Shrubs and Plants, Evergreens and Deciduous Hedges, for lawns and yards, and screens for the protection of our orchards and gardens; and yet we have scarcely begun to realize the commercial value of such an investment to our homes. We know a keen, sagacious business man in one of our large cities, who has operated for years past in the following manner: He buys a tract of land in the suburbs of the city, cuts it up into liberal sized lots, drives stakes for a house, and immediately plants the ground with fruit and ornamental trees, shrubs and hedges. He then employs a good man to care for them, and does not offer the lots for sale for two or three years, well knowing that the increasing value of the property will pay him good interest on the investment. When a purchaser goes to look at the property, he finds that when his house is built he has, instead of a naked house on a bare lot, a neat and beautiful home, with its growing trees and plants, which it would have taken him years to get around him. Many of our most active business men are also men of taste, and would be glad to improve and beautify their grounds, but they are so occupied with business that they have neither the time nor disposition to find out what they want or to lay out their grounds. Some competent man can generally be found to aid in this matter.

A detailed description of desirable trees and shrubs would be little less than a recapitulation of list contained in our Catalogue of Ornaments, to which the readers are referred. A grouping together according to the time of flowering, or size of growth, will be found very desirable.

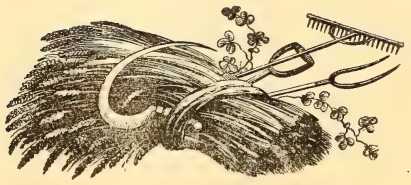
There is now a very fine collection of Weeping trees which during the past few years has attracted much attention. Among the most striking and beautiful are the Weeping Mountain Ash, very drooping, with beautiful red berries. Cut-leaved Weeping Birch, very fine, slender drooping branches and delicately cut-leaved. Kilmarnock Willow, one of the very best, beautiful, with large glossy leaves, and the Gold Barked Weeping Ash, pretty and desirable; very showy in Winter.

In Norway Spruce and American Arbor Vitæ are the best known of Evergreens. Either as single trees or in hedges they are indispensable. The Black and White Spruce vary in shades of color as their names indicate. The White Pine, light and graceful in its foliage; the Scotch, angular, spreading, irregular, but finely colored; and the Austrian, erect, regular in growth, and bearing upright cones; are well known and desirable. The Balsam Fir is handsome, but loses its lower foliage, a fatal defect in an Evergreen. The Siberian and Hovey's Arbor Vitæ are improvements on the common American; the first for its strong, thick leaved

foliage, and the other for its fine color and regular form. The Golden Arbor Vitæ may also be added. The Irish and Sweedish Junipers are compact cones of foliage (the latter lighter in color) and contrasts finely with the round topped trees.

The idea of planting hedges for use and ornament, and screens for the protection of orchards, farms and gardens, is a practical one, and rapidly becoming appreciated. In a recent trip among some very intelligent farmers and fruit growers of Gennessee County, N. Y., we noticed that many of them had planted belts of Norway Spruce trees along their entire North and West lines. They were at once beautiful and perfect as wind breaks. The owners told us that they considered their farms worth ten dollars per acre more in consequence.

Nothing can be more beautiful than ornamental hedges of Evergreens or Shrubs well kept and pruned to serve as boundary lines between neighbors, or as divisions between the lawn and gardens, or to hide unsightly places. By using medium sized plants, a hedge can be made as cheaply as a good board fence can be built, and then with a very little care it is becoming every year more and more "a thing of beauty." We all know that such hedges constitute a principal attraction in our best kept places.



# THE BEST TREES FOR SHELTER BELTS.

## W. D. BAYNTON, WISCONSIN.

White pine, Norway spruce and Scotch pine are the best species of evergreens for shelter belts. The white pine, though somewhat more difficult to establish than the others mentioned, is an excellent tree for this purpose. It has a scant root when young, and should therefore be carefully shaded, mulched and watered at the start.

The Norway spruce is, perhaps, all things considered, the best for shelter belts. It has a good root, is of rapid growth, has a fine full foliage, and beautiful form. It should have a naturally good soil. Manure should never be used for this or any other evergreen. The seedling or young transplanted trees usually sell at a higher price than the pine, for the reason that not being natives of this country they must be nursery grown; but when they can be had for from $4 to $6 per hundred, when eight to fifteen inches high, this fact ought not to prevent their being planted where a good shelter belt is wanted. The branches of the Norway spruce will thickly interface so as to present an almost impenetrable barrier to the fierce winds and driving snows. Some of these belts have been found to reach a height of seventy-five feet. Such a shelter belt is worth hundreds of dollars to any western farmer. It is poor economy to withhold the investment of the few dollars needed to secure such an invaluable protector about his buildings and grounds. The demand for Norway spruce for shelter belts is steadily increasing. This tree is also used to quite an extent in hedges. It stands trimming and training well and can be grown to any desired height.

The Scotch pine is now being largely planted on the plains, especially for shelter belts. While it is a rather coarse tree it possesses considerable merit for this purpose. It is of rapid growth, exceeding even the white pine the first ten years of its life. Like the white pine it will thrive on poor dry soils, and for that reason is often superior to the spruce for shelter belts in some locations. In the long run, however, the white pine excels it, both in rapidity of growth and value of timber.

This list of evergreens for shelter belt planting is not extensive. There are many varieties not named here that may do fairly well for this purpose in some sections of the country, but for the naturally timberless regions of the West, where protection is imperatively demanded, the well-known and tested kinds only should be planted, unless indeed in a small way for the purpose of experimenting. In some of the most exposed, and naturally treeless portions of West and North-west, I would advise early settlers to start shelter belts at once from hardy native deciduous trees.

These can often be had when the better classes of trees would not, at first, get a hold. Nor should people wait a year longer than is absolutely necessary to secure some kind of shelter. The hardy native trees will much sooner attain a sufficient size than will more valuable slower growing evergreens. Of these we may make mention of the cottonwood, box elder, soft maple, ash and white elm. A few rows of these will accomplish wonders, even in the face of a tornado. If placed not far from the buildings, they receive the head of wind in its mad course, bend before it, but deflect it in an upward and onward direction, and thus carry it over the buildings, saving them in many cases from total wreck. Even a row of willows will do this. They may bend half way to the ground under the tremendous shock of the wind, but they offer an obstruction something like the side of a hill from which the wind current bounds upward, and is obliged to leave a little portion of its track undevastated. Many a farm-house has been saved from destruction in this way.—*American Agriculturist.*

## EVERGREENS.

The holes should be dug three feet wide and two feet deep, fill up to the proper height with well pulverized earth, mixed with about one sixteenth of sand; cut off all bruised and broken roots; place them in their natural position in the hole, cover with the top soil, and pour on water until the roots are wet, which causes the mellow earth to cluster around the fibrous roots; now fill to the top and pack down with the foot. After the tree is planted in the Fall cover with long straw fastened below with earth and tied above; let it remain until the first of April. If set in the Spring, place straw around and leave about two weeks; during the first summer, evergreens should be mulched with *coarse* manure or litter, (half rotted straw is good,) spread out a little beyond where the roots extend and about four inches in depth.

## ROSES.

PLANT and treat like evergreens; if planted in Fall shorten the branches to ¼ of their original length. (The best time for roses or evergreens is in the Spring we believe); mound up around the stem with chip manure, well rotted, partially rotted straw or hay. Grass or weeds should never be allowed to grow within two feet of the stock, and all old stocks should be trimmed out every Fall.

**Moss Roses.**—All are perfectly hardy, standing our severest Winters without protection. They should not be so severely pruned as some

other varieties. Plant in the richest soil and cultivate liberally.

**Climbing Roses**—These are admirably adapted for covering walls, trellises, arbors, &c. Among them the Prairie Roses take the first rank; their rapid growth, perfect hardiness, immense clusters of beautiful flowers, and their late blooming, commends them to every one who wants a splendid climbing rose.

## HYBRID PERPETUAL, OR REMONTANT ROSES.

Roses of this class are perfectly hardy, free and constant bloomers of all shades of colors, from very dark to snow white. They are the Roses for the million—the *par excellence* of the whole tribe of Roses. They should have rich soil, which will induce a more rapid growth and a more profuse fall bloomer.

**Deciduous Shrubs** are pretty ornaments to any lawn either single or in groups. They can be set in clusters around some nice weeping tree such as the weeping Kilmarnock willow, and will show to good advantage. The following are the hardiest and best blooming in order named:

Weigelia, Upright Honeysuckle, Spiria, Syringa, Calycanthus, Fringe, Hydrangea Altheas, Evergreen and Trailing Shrubs.

**Rhododendron.**—In varieties. A good collection of fine plants. These are the most magnificent of all evergreen shrubs, with rich green foliage and superb clusters of snowy flowers. They flourish best in a peaty soil and somewhat shaded situation, and will repay all the care that may be bestowed in preparing a bed suited to their wants.

**Ampelopsis.**—(American Ivy, or Virginia Creeper) (*hederacea.*)—Has beautiful digitate leaves, that become rich crimson in Autumn; a very rapid grower; like the Bignonia and Ivy, it throws out roots at the joints by which it fastens itself to anything it touches.

**Clematis, or Virgin's Bower.**—The Clematis are elegant slender branched shrubs, of rapid growth, beautiful, large flowers of different colors, white, blue, purple, and two colored, and some are quite fragrant, especially the flammula and varieties. They are well adapted for training on trellis work, and grow from ten to fifteen feet high. They stand the severest Winters if the roots are slightly covered.

Most gorgeous climbers, nearly all varieties, with flowers four to seven inches in diameter, growing rapidly and flowering very profusely after becoming well established. They delight in rich soil and a sunny position, and are perfectly hardy. For pillars, trellises, bedding in masses of planting about rock-work, the Clematis cannot be excelled. The following is a most desirable collection in every respect.

**Coccinea.**—(The Scarlet Clematis.)—This remarkably handsome climbing plant has proved to be one of the most desirable for any purpose where climbing plants are required. The plant is a herbaceous perennial,

the stem dying to the surface each winter (this is an advantage where an unobstructed view is required in winter.) The vines attain the height of from 8 to 10 or 12 feet, beginning to flower in June and continuing until frost; single vines have from 20 to 30 flowers on each, and frequently as many as ten vines will start from one crown each season. The flowers are bell shaped; in color a rich, deep, coral scarlet, shining as if polished, and lasting a long time when cut. Indeed, one of the most beautiful plants for festooning is to be found in *Clematis Coccinea,* with its peculiar shaded green and elegantly cut and varied foliage. If it never flowered it would be a handsome climbing vine.

**Henryi.**—(ANDERSON-HERNY).—A splendid hybrid between *C. lanuginosa* and *C. Fortunii.* It is of robust habit, very free bloomer, flower large and finely formed, and of a beautiful creamy white.

**Jackmanii.**—This variety bears a profusion of large sized, intense violet-purple flowers (six inches across), richly veined, and shaded with redish purple. It is a rapid grower, an early and abundant bloomer; perfectly hardy and adapted to all kinds of culture, it is equally fine either as a climbing or a trailing plant, and is well adapted for covering up all unsightly objects.

## BULBS—OUT DOOR CULTURE.

OCTOBER and November is the proper time for planting Hyacinths, Crocuses, Tulips, Snowdrops and other bulbs described in the catalogue, and not in the Spring. Let the soil be dug to the depth of eighteen inches, thoroughly pulverized, and if the soil is poor enrich it with some thoroughly decomposed manure; if the soil is too close or heavy, mix some sand with it and thoroughly incorporate the whole.

When covered with half-rotted manure this will sufficiently enrich the soil. The best covering is leaves or half-decayed manure; never rotten manure as it excludes light and air. By excessive covering many bulbs are annually lost; cover them from two to four inches after the ground is frozen two or three inches deep; this will help to secure the bulbs from the depredations of mice and other vermin. It is not the freezing that kills, but a continual thawing and freezing, thus lifting the bulbs to the surface of the ground. As soon as the coldest weather is over the covering may be removed; when the blooming season is past pinch off all the flower stems, allowing the bulbs to remain until the leaves are yellow. If the beds are wanted for bedding plants, take up the bulbs and replant them very thickly in any vacant spot, allowing them to remain until the foliage is decayed; then, if named varieties, place each one in sand, separately, and pack away. If of the mixed bulb, place all in a box of sand, putting them away until fall planting.

**Hyacinths in Glasses.**—Nothing more easy, more fragrant, or that will more richly reward the grower, than the hyacinth. For pots and glasses the named varieties are the most desirable. To grow them in glasses

the single ones are preferred, although some of the double are equally as good. First let your glasses be thoroughly cleaned; then fill them with water, the base of the bulb just and barely touching the water; place them carefully away for three to four weeks in a dark closets. Then you will find the roots have nearly filled the glass. Bring them to the light gradually, avoid placing them on the window ledge, as the cold draught chills the roots; neither expose to the full sun, but keep them in a room of moderate temperature, with plenty of light and air. As the water evaporates, fill up with water of the same temperature as the room. *Never* change the *water* unless it *becomes tainted;* neither use cotton or any other fid-fads. The simpler the treatment the more certain of success.

**Hyacinths in Pots.**—If the leaf-mold and special compost considered necessary for the amateur to grow these favorites to perfection, are not available, take any ordinary garden soil; if poor, mix it with some thoroughly decomposed manure and fine sand; make a heap of it, turning it over once or twice. Selecting the deepest pots, plant one or more hyacinths in each, according to the size of the pot; place the bulb not deeper than the shoulder; thoroughly saturate them with water for two or three days; then place them in a box, covering the whole with six inches of damp sand, and put them in a cold cellar, placing them on the floor, *leaving* them there for at least four to six weeks, removing them a few at a time to keep up a succession of bloom, bringing them gradually to the light. With the above simple treatment, a lady last fall ventured upon what she termed "the deep waters" with hyacinths in glasses, and hyacinths, crocusses, and Duc Van Thol tulip, grown in sand and moss--keeping them in darkness for the time specified. A most magnificent bloom of flowers was the result. The great secret is to obtain the bulbs well rooted, and this can only be accomplished by burying them in darkness. If exposed to the light at the first planting, the struggle between the top and bottom growth, both particularly weak, commences, and the result is a weakly, sickly flower, if any.

**Herbaceous Pæonies.**—The best time to plant them is the autumn. This is one of the finest herbaceous perennials; perfectly hardy, wonderfully showy, and of the easiest culture. They will thrive in any ordinary garden soil, needing no extra care or cultivation. The varieties, from earliest to latest, afford a succession of bloom for over a month.

**Lilies**—Should be planted in November, five to six inches deep, and may be allowed to remain in the ground for years. These, unlike the hyacinths, crocus, etc., if neglected in the fall, may be planted in the spring as soon as the garden is in a condition to plant garden seeds.

THE amateur experiences the greatest difficulty in the management of plants in rooms, from the dryness of the atmosphere. This may, however, be in a measure obviated by having the stands on which they are placed made with ledges, and covering them with about one inch of sand, on which place the pots. The sand should be kept wet, and may be covered with moss to improve its appearance. The plants must be kept clean and frequently sprinkled with water or washed with a plant syringe, which not only keeps of the insects, but clears the leaves of dust and opens the breathing pores. Without a sufficiency of air and light plants will soon become weak and sickly, and their leaves will turn yellow. For this reason they must have as much sun and light during the winter months as possible, admitting air whenever the temperature is not too cold, say 40 deg. Fahrenheit in the open air.

Watering plants, whether in a room or greenhouse, must be regularly attended to. Never allow the soil to become so dry that it will crumble under the pressure of the finger; at the same time avoid a constant dribbling of water, as in either case it is sure to terminate fatally with more or less of the collection. Never water unless the plant really needs it, and then give freely, observing that the surplus runs out at the bottom. If water stands on the surface it is an indication of insufficient drainage, and should be at once remedied. When saucers are used, the water must be removed from them as soon as it has drained through the pots, as nothing can be more injurious to the roots of most plants than to have the pots they grow in kept standing in water. There are some exceptions, however, to this rule, such as all kinds of Mimlus, Hydrangeas, Calla, Æthiopica, Lobelias, and all such as require an abundance of water. Plants in a state of bloom or vigorous growth require more water than at other times. Here the amateur's judgment must be exercised, as scarcely any two plants require the same quantity of water at all times. Never use COLD WATER, but let it conform as near as possible with the temperature of the room. Over potting with imperfect drainage is also a fruitful cause of sickly plants. In transferring a plant to a larger pot, never advance more than one size at a time, observing to give plenty of drainage by placing a layer of charcoal from one to two inches deep at the bottom of the pot. The novices in plant culture, when they find their plants becoming sickly, usually resort to overfeeding (via over potting) with the use of stimulants, such as guano or liquid manure, where an opposite course is necessary. Such plants may frequently be restored by reducing the ball

of earth, placing them in smaller pots, well drained, and by keeping them moderately dry the healthy action of the roots will be once more restored, and they will again become healthy specimens; then their growth can be promoted by gradually shifting into larger pots. By an observance of the above hints, nearly all greenhouse plants may be grown successfully in a room.

In the care of hanging baskets, considerable discretion must be used not to let the soil get dry, as there is nothing so injurious to plants whose roots are so much exposed to be allowed to get so dry as to wilt—too frequently the case with hanging baskets. In watering, it is best to dip the basket into a bucket or tub, and hang it in the cellar or yard to drip before removing it back into the room, but do not over water; keep the soil in a moderately damp, but by no means a soaking condition. Sprinkle or wash the foliage of the plants every day. Plants should never be sprinkled or watered on the foliage when the direct rays of the sun are upon them, or it will burn or blister the foliage.

When gas is used in the room where plants are kept, a light article of paper or muslin should be well dampened and laid over them during the evening, as there is nothing more injurious to vegetable life than gas. Where hot air furnaces are used, the same precautions would greatly assist the plants if practiced during the night and two or three hours of the morning. The best means for wetting the foliage of plants is a light syringe, for, if properly used, the object may be effected without injury to the room or carpet, thereby not rendering it necessary to remove the plants for this purpose.

If the above simple rules are followed, the most unsuccessful can soon become experts at this beautiful pastime of the culture of flowers.

## RECIPE.

TAKE stone lime, slack as for ordinary white wash, use enough at a time to make a bucket two-thirds full of the proper consistency for white washing. Now add one pint of *gas tar*, one pound of *whale oil soap* dissolved in hot water, (or one pound of *soft soap*, or one pound of *potash*, or one pint of strong *lye* from wood ashes,) then add *clay* or *loam* enough to make the bucket full of the wash the proper thickness to be applied with the white wash brush. If the trees have had the earth ridged up around them, take it away from the collar and apply to the body from limbs to the ground or down to the roots. Its advantages are: It will destroy the bark louse and give the trees a healthy and clean appearance; will drive out all borers which infest the trees, which are always worse in dry seasons, and the moth will not deposit eggs in the trees that season.

Again mice and rabbits will not girdle trees where this wash has been used, apply in May for borers and general benfiet to the trees, and in late

Autumn for mice and rabbits. Wrapping with rags, or corn stalks tied around trees prevents ravages of latter, *gas tar* applied pure will kill trees.

Two pounds of potash in two gallons of water, or with soft soap, applied with soft brush is a good wash.

Leached wood ashes placed with soil around the body of peach trees is a sure protection against the peach borer.

To kill the rose bug and slug, sprinkle the bush with a mixture of whale oil soap and tobacco juice. This is a good remedy for the cherry aphis.

**Composition for wounds made in pruning.**—Take a quart of alcohol and dissolve in it as much gum shellac as will make a liquid of the consistence of paint. Apply this to the wound with a common painter's brush, always paring the wound smoothly with a knife. If kept in a wide mouthed bottle, (so as to admit the brush,) and well corked, it will always be ready for use when wanted.

**Grafting Wax.**—The ingredients used are rosin, beeswax and tallow. These are melted together in the proportion of three parts of the former to three of beeswax and two of tallow. For use the wax is generally rolled into sticks as it hardens from the pots, and is needed for applying, or else is thinly brushed over sheets of weak cotton cloth which are torn in strips an inch wide and wound on a ball. In all cases of out door grafting care must be taken to exclude the air from the wounded parts.

London Purple or Paris Green, in the proportion of one half lb. to forty gallons of water, sprinkled or sprayed upon trees, plants, bushes and tobacco will destroy the insects that infect them. It is also a sure remedy for the curculio which infect plums, nectarines and apricots. From 50 to 75 % of apples have been saved from the codling moth where this has been used. On next page we give cuts spraying pumps manufactured by Goulds Co., of Seneca Falls, N. Y. Nos. 905 and 560 are probably the ones most useful; the former for large orchards and the latter for small ones. Where only a few trees are sprayed a common tin force pump, such as the "Little Giant," cost $1.00, will answer. The ones first mentioned are better and more durable, they are made of brass and sell for $9.00.

**Fig. 560.**—This cut shows in practical operation a very useful and almost indespensable adjunct to every household, factory and warehouse in the world. For washing windows, wagons and sprinkling lawns, in conservatories, gardens and for incipient fires it has no equal.

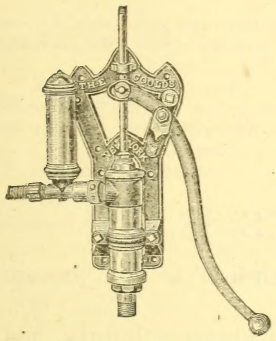
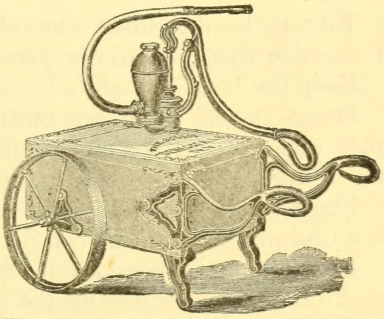


**Fig. 566.**—This is made of cast brass excepting frame and lever, and capable of doing better work than the cheaper Portable Force Pump. They may be used as a small House Force Pump, where large ones can not be used.

**Fig. 304.**—Represents Garden Engine with Pump placed inside box large enough to hold a barrel of water and on wheels. Fruit Growers and Nurseryman thoroughly appreciate this apparatus, which enables them in seasons of drouth to pour down the refreshing water on the parched trees and endow them with fresh vitality.



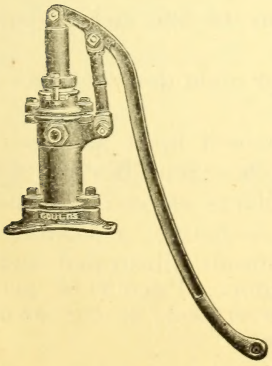


**Fig. 905.**—This Pump is especially adapted for diffusing liquids of any kind on trees, shrubs or plants by Gas Pipe discharge it can be made to spray eight rows of plants, and with those attachments two rows of trees. This is the best Pump for large Orchards that is made and the price is reasonable for such an article.

The Firm will send circulars on your application.

## READ WHAT OUR PATRONS SAY.

EAST LYNN, ILLINOIS, Dec. 8, 1888.

MR. FREEMAN.—Dear Sir.—In reply to your inquiry in reference to the raising of plums in this part of Illinois, I would say that it is an easy matter to raise them. It only wants a little care at the right time. I have raised the Wild Goose for the last five or six years, and the past season the trees were so full that the limbs broke down. I treat them for curculio as follows: In the spring, before blooming, tie *cotton batton* around the body of the tree, leaving bottom loose and raised from body of tree. From blooming, go every morning for three or four weeks, and give the tree several sudden jars which will knock off the curculio, and the cotton will prevent it from crawling back in the tree. Yours,

GEO. TANNER.

[If a sheet was spread to catch the curculio and then destroy it as well as all stung plums that drop the purpose would be answered better than the cotton batton, though it might do to leave that on also. H. W. Freeman.]

In reply to a letter asking how he would be suited in receiving his trees the same size, &c., as the others sent, and what he could say from his experience of the *Whitney Crab*. We received the following:

AMBIA, IND., Jan. 1889.

MRS. FREEMEN & SONS.—There is no better crab than the Whitney for bearing and hardiness. Mine have never failed since they began to bear, which was five years ago. I will be satisfied if you send me as good trees in the spring as the others. Yours truly,

MARTIN TETHROW.

## EDITORIAL NOTES.

If the evergreens are straggling in shape, cut back half of the present season's growth at once.

Hoe the strawberries and newly planted black raspberries lightly, not deep.

Take no heed to those who tell you that cultivation is unnecessary, but remember that it should be given early and judiciously.

Keep the hoes, ploughs and cultivators bright.

Do not put *all* the blame on the Nurseryman if you loose some in transplanting. They often meet with the same misfortune, and cannot account for it either. Remember that nothing is certain but "death and taxes."

Plant where the land is drained naturally if possible; if not convenient, see that proper drainage can be had.

Pure ground bone and unleached wood ashes, half and half, well mixed, make the best fertilizer for the strawberry. This is a good fertilizer for all small fruits.

A deep sod though poor is preferred for orchards to one richer, but shallow.

Torches left burning in orchards or vineyards after night destroy thousands of insects.

The best thing you can do to prevent being imposed upon and post yourself on all Horticultural topics and find out the best remedies for insects and what kinds of trees, flowers, shrubs and plants succeed best in the different localities, is to subscribe for *Popular Gardening*, a monthly journal of sixty columns, carefully edited and profusely illustrated and filled with short, practical articles from the best writers. Price $1.00 per year. We can conscientiously recommend this to everybody of our own free will and without the knowledge of the publishers.

# INDEX.


PAGE.

Apricots, ..... 27
Brighton—(Subject of illustration.) ..... 35 to 39
Blackberries, ..... 48
Buying trees in Autumn, ..... 4 to 6
Cut of Grafting, ..... 40
Culture of the Plum, ..... 18 to 22
Currants, ..... 41 to 42
Editorial Notes, ..... 62
Fay's Prolific—(Subject of illustration.) ..... 42
Grapes, ..... 32 to 39
Gooseberries, ..... 43 to 45
Hardy and Improved Siberian Apples, ..... 15 to 18
Insects, ..... 19, 41, 42, 59 and 60
Introductory, ..... 1 to 3
Industry—(Subject of illustration.) ..... 44
Miscellaneous Fruits, ..... 29 and 50
Ornamental department, ..... 51 to Window Gardening.
Pruning, ..... 8
Peaches, ..... 27
Prunus Simoni--(Subject of illustration.) ..... 28 to 29
Propagation of Fruits, ..... 30 to 32
Quinces, ..... 29
Raspberries. ..... 46 to 47
Recomendations, ..... 0 to 40
Receipe, ..... 59
Spraying Pumps, ..... 61
The Apple, ..... 7 to 8
The Pear, ..... 25 to 26
The Cherry. ..... 23 to 24
Window Gardening, ..... 58 to 59